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All matters pertaining to material for publication, and questions relative to County Societies, should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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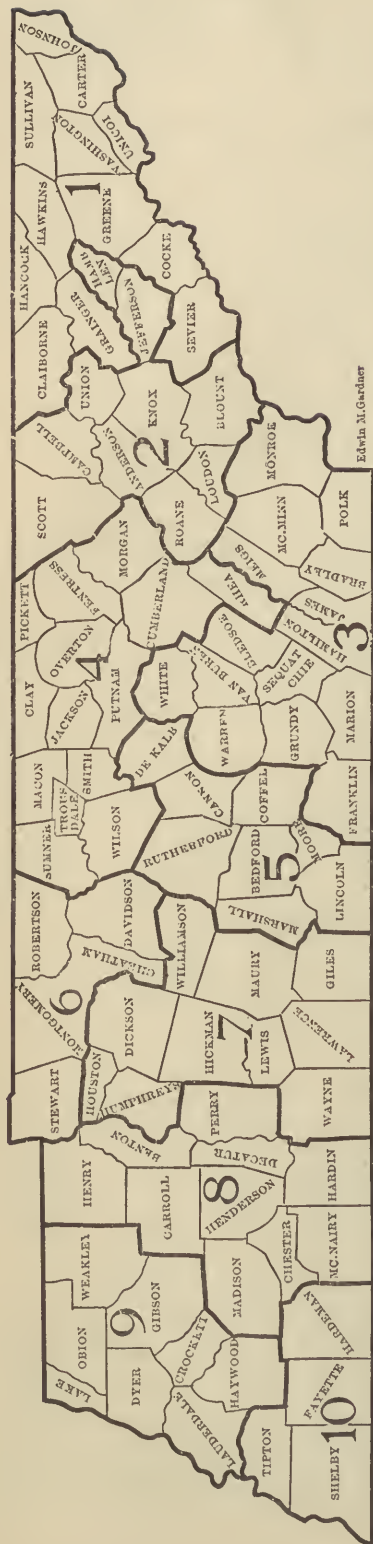
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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

JOURNAL

OF THE TENNESSEE STATE MEDICAL ASSOCIATION

VOL. III.

NASHVILLE, TENN., MAY, 1910

No. 1

PRESIDENT'S ADDRESS.

The Higher Mission of the Doctor.

JERE LAWRENCE CROOK, A. M., M. D.

HUMAN history contains no chronicle of the progress of mankind more interesting and more inspiring than the marvelous advance which our profession has made within the past half century. While the followers of Blackstone have been delving into the records of the past searching for precedents and opinions of men long since dead; while the ministry has seen many of its men of eminence lose themselves and befuddle their hearers in the mists of higher criticism, the medical profession has let the dead past (and the undertakers) bury its dead and has pressed forward eagerly in its fight for humanity, testing each new discovery in the crucible of experience, using every modern agency to make more exact diagnoses and to give more efficient treatment; marking its progress by the countless thousands whose lives have been saved, and by the lengthening span of human life.

However, it is not my purpose tonight to recount to you, who already know them, our brilliant achievements in the past. Instead of looking backward, let us turn our faces to the future and inquire what more we may do to lengthen human life, and make the world a better place to live in. I mean what the medical profession in a broader, higher sense

should undertake to do for the world. *The physician needs no incentive to use his utmost skill to heal the sick, other than the call of humanity. The surgeon requires no admonition to be mindful of placing his patient's life in jeopardy, other than his own conscience. His peculiar and sacred relation confers on him an obligation which he fully realizes and rarely fails to discharge honorably.*

But there is, if possible, a broader mission for us in our relation to society in general, and that is to recognize and realize the obligation contained in the title which the world gives to us—to be in deed, as we are in name, *doctors—teachers.*

When we enter this broad field, the vista of possibilities for helpful service to humanity, spreads out alluringly before us. Let us look about us and mount the rising tide of altruism which is reaching upward in many directions, and take our just position as leaders in a movement to minister to the physical and moral health of the people. We are often termed guardians of the public health, and have done much in the past to justify the term, both in preventing and curing disease, but in this broader field of service, I can discern manifold opportunities not yet grasped for ministering to our fellow men. This thought was impressed very forcibly on me during the meeting of the Kentucky State Medical Association, at which I was one of the guests, last October. I brought home with me many pleasant

memories of this meeting, and derived inspiration for some of the thoughts I shall present to you tonight. One of the most interesting features of the meeting was a symposium on the social evil, during which I was called on to speak, and as many of the ideas I advanced then are in harmony with the subject I have chosen for my address tonight, I will here repeat and emphasize some of the things then said:

"The important question which has engaged your attention tonight has been handled from many points of view by able men, who are thoroughly conversant with every phase of the subject. It seems to me, if there has been one point more particularly stressed than another in the masterly address of Dr. Mayo last night, today in Dr. Ochsner's paper, and tonight in this symposium, it is that a very important obligation rests upon the man who has the title of doctor. The word 'doctor,' as we all know, means teacher, and it seems that, at last, we are coming to realize that the highest function of the doctor is to teach. Those of us who have been honored with diplomas from medical colleges, and who have subscribed to the Hippocratic oath, are not mere money-makers, nor did we enter the medical profession chiefly from the standpoint of earning a livelihood, but there must have been a higher obligation, a greater incentive, and a nobler aspiration than such a mere financial aspect would grant. It is hardly necessary for me to tell you what has been accomplished in the way of spreading the movement for the prevention of disease. The doctrine of good health is being preached from the pulpit of every church all over the land, by the press of the entire world, and by doctors everywhere, and the members of the medical profession know what marvelous results are being obtained in diminishing the spread of tuberculosis. The first thing requisite was to recognize our obligations and demonstrate to each other and to the world what good we can accomplish by teaching humanity how to live, and to care for themselves. When our profession as a body resolved itself into its highest function of teaching, very few people realized what it would mean to suffering humanity. The only tribunal before which we can be justly arraigned is at the bar of mortuary

statistics. That is where we are to be tried, and if we do not lengthen human life and lessen human suffering and inculcate a better standard of living, and a higher standard of excellence than our predecessors, then we stand as convicted criminals before this tribunal. So, I claim, when we use our opportunities to teach, when we carry out the suggestion in the title of doctor, which the public gives us, we will be accomplishing the greatest good for humanity, and will thereby approach nearer to the ideals toward which we are striving.

"Reverting to the points made by Dr. Mayo and by Dr. Ochsner in their papers on Cancer: the keynote of these was to teach the people the necessity of prompt treatment. We should teach each other as well as the public, the obligation resting on us for prompt diagnosis and efficient treatment, while it is still a local disease.

"We have learned from the excellent speech of Dr. Powell that there is no higher function than the preaching of the gospel of good health and cleanliness, for cleanliness is akin to Godliness. This symposium has impressed most of us with the necessity of being teachers, teaching people the terrible dangers of this dreadful scourge of venery, and the place to begin this teaching is with the boys and girls in the public schools. More than 18,000,000 children go to school and all of them are to a certain extent under the influence of teachers. We can inspire people with the dread of venereal diseases by beginning with those 18,000,000 of children in the public schools. Let us lend our efforts in the direction of having the public school system equipped with a staff of competent physicians, whose duty it shall be to visit the schools and teach the virtue of right living to these young minds when they are in a receptive condition. As I have advocated in other addresses, I believe compulsory physical training also should be incorporated in every public school, high school and university, and that every single student should be forced to take a course in physical education which should be under the jurisdiction of the medical profession, not because we wish to apply to ourselves anything for gain, but because we are more competent by reason of our education and our habits of observation than anybody else, and that is the only reason. Doctors are not looking for jobs for political, personal, or social reasons, but we are trying in our humble way to help humanity live longer and be happier. Let us, therefore, lend our

efforts to have incorporated in the public schools a system of physical training and a system of physical teaching, because to educate the child to develop its body in a proper way without educating the mind at the same time would necessarily be an incomplete education; so the same doctor, who prescribes certain exercises which will tend to make the abnormal child normal physically, should instruct that child in the dangers which will beset its pathway through the indiscriminate abuse of the sexual function. Children should be taught the necessity of fresh air, proper diet, and pure water to drink. By having our public schools under medical supervision the children will have their bodies and their brains intelligently educated and so made ready for whatever they are called upon to do, bear, or suffer."

It was my privilege to represent this Association at the Atlanta Health Conference, in January, called for the purpose of studying the hookworm disease and its ravages in the South. Aside from the great interest which centered in this important question, and the splendid papers which were read on hookworm disease by experts thoroughly familiar with the subject, I was much impressed with the interest which has recently been aroused in the great life insurance companies of this country, evidenced by the presence of Mr. E. E. Rittenhouse, President of the Provident Savings Life Insurance Society, who read a masterly address on the Excessive Waste of American Life. I believe I can justly claim that the chief factor in stimulating the interest and enlisting the active support of the men at the head of these great institutions in our great live-saving movement, is the educational campaigns being carried on by the physicians of the country, teaching the people how to make war on the great white plague, the hookworm disease, typhoid fever, cancer, and other diseases. I quote from his address:

"Popular interest in health preservation has developed enormously in recent years. Healthful exercise, the outdoor life and right living

have become subjects of lively public interest. Health preservation, in one form or another, is a topic of frequent discussion in the public prints of the country.

"The interest of the medical profession has been quite generally aroused and the science of sanitation, hygiene and preventive medicine has steadily advanced. Increased vitality and power to resist disease have naturally followed.

"Because of these favorable conditions and notwithstanding the fact that our population is so vast and so widely scattered that but a relatively small number of our people have been affected, the death rate from infancy to middle life has responded with a sharp decline.

"The National Association for the Prevention of Tuberculosis reports that over eight millions of dollars were spent last year in the war against that disease. While the amount used in fighting this terrible scourge is almost trivial, compared with the magnitude of the task, yet we find the death rate from this cause in the registration area of the United States has decreased forty-nine per cent since 1880. And still it is estimated that about 500,000 American people are now afflicted with tuberculosis, of whom about 130,000 die annually.

"The death rate from typhoid fever, another communicable disease, the conquering of which is largely a question of sanitation, has been reduced forty-four per cent since 1880. And still there are about 22,000 people dying annually from this disease.

"The diphtheria death rate has been reduced eighty per cent since 1880. A large portion of this decrease is directly due to the use of anti-toxin, which was first introduced in 1895; but still about 20,000 lives are annually lost from this malady.

"Certainly this record justifies the belief that similar results will follow a systematic and permanent campaign against the hookworm.

"Notwithstanding this apparent concern of the individual on the subject of his own health, as a people we seem to have grown so familiar with the presence of sickness and death that we have become almost as indifferent to suffering and loss of life as the veteran soldier becomes to death and distress in war."

The American people are notoriously extravagant and wasteful. Patten, the wheat king, stated a few days ago that we wasted enough food products in this country to feed a good sized nation. But

the most serious and inexcusable waste is the waste of *human life*—the deaths from preventable diseases which have reached the appalling figure of over 600,000 annually.

Let us look for a moment into the life waste that is still going on.

The loss of life in this country, past and present, as a result of the failure of our people to avail themselves of the discoveries of science and to apply ordinary, reasonable and well known preventive measures, can only be characterized as appalling.

Every hour seventy-two American people die from preventable causes. Every day lives are needlessly destroyed which equal the population of a town of over seventeen hundred souls.

Every year the sacrifice through ignorance and neglect equals a population of a city like Baltimore or St. Louis.

These estimates, furnished by Mr. Rittenhouse, are based upon the information and opinions gathered by Professor Irving Fisher, of Yale University, which are found, with his conclusions, in his recent report to the National Conservation Commission of which he is a member. Professor Fisher, who is also President of the Committee of One Hundred on National Health, has made a very careful and exhaustive study of mortality from preventable diseases.

To show how the life insurance companies are awakening to the possibilities within their grasp, I quote again from Mr. Rittenhouse:

"The initiative in arousing private and public interest in a movement like this must come from public bodies devoted to the public welfare, from public-spirited citizens in official and unofficial life, and especially from the medical profession which is so brilliantly and bravely performing its mission to discover the causes of our bodily ills and to find a means of easing or curing them. . . .

"I believe that the conservation of the

health of policy holders offers a new and very important field of usefulness for all life companies, and without excessive cost. . . . Every unnecessary death among policy holders adds to the cost of life insurance.

"The legal reserves provided to pay each year's death claims are determined by the Mortality Experience Tables. When the actual mortality for the year is less than the expected, the amount thus saved is called mortality gains, and in the form of dividends to policy holders operates to reduce the cost of insurance. It therefore follows that the lighter the mortality the greater are the mortality gains and the dividends.

"If it is right for a life insurance company to save money by economical management and wise investments, is it not also right for them to make an effort to save money for their policy holders by reducing the mortality rate?

"If it is right for fire insurance companies to assist in reducing the fire loss, it cannot be wrong for life companies to assist in reducing the life waste, purely as a business proposition.

"The law recognizes that life companies should make medical examinations of applicants to see that no impaired lives are insured. Is it not just as lawful, just as wise, and just as necessary to prevent, so far as they are financially able, these risks from becoming impaired after they are insured? It cannot be right to see that they are physically sound when they come in, and wrong to try and keep them physically sound after they get in. The object in both instances is to avoid an abnormal mortality rate, and this is a very important matter to both companies and the policy holders. . . .

"It is obvious that these companies cannot undertake to give medical treatment to all policy holders for all diseases. There is no company that is strong enough to carry such a burden of expense, but a permanent plan to assist policy holders in detecting disease in time to check or cure it, and to teach them how to prevent disease, is entirely feasible, and the expense can be kept within reasonable limitations.

"Inasmuch as each company is now supplied with a medical department and medical examiners throughout the country, the machinery with which to carry on this work already exists. . . . The policy holder should be taught to use the medical profession to prevent disease, or to detect and check it in its early

stages, as it goes without saying that physicians had much rather use their skill in this direction than to be called upon to perform miracles after disease has fully developed.

"The whole purpose of this plan is in direct line with the very object of the existence of the medical profession, and if properly conducted it will operate to bring the policy holders and the doctors in closer relations, benefitting both, and humanity in general. . . . Such a movement on the part of the life insurance companies would benefit the medical examiner, the family physician, the company and the policy holder. There is not a negative or an antagonistic factor in it. The fact that it has never been tried before is no argument against it. Its cost is not excessive. It is legal; it is just; it is humane, and it would add a new and valuable feature to life insurance."

A short while after hearing this vigorous presentation of these new and humane ideas, it was my privilege to attend a banquet in Nashville given by the Metropolitan Insurance Company, and to listen to an inspiring address by Haley Fiske, its Vice-president. In his great speech he showed how the rising tide of helpful service to humanity had lifted the lofty ideals of his company even higher than its great tower—which is the highest in the world—and the Metropolitan has actively entered the fight against tuberculosis, securing permission from the New York legislature to build a splendid hospital on the Westchester hills, which will be free to all employees afflicted with the disease. Also, the company has sent out hundreds of thousands of scientifically accurate illustrated pamphlets to its policy holders, showing how to prevent and cure tuberculosis. They are inaugurating a plan to send visiting trained nurses into the desolate homes of their sick and indigent policy holders to bring comfort and instruction to those in distress and ignorance. He said that he hoped the time would come soon when the law would allow insurance companies to build hospitals for the relief of victims of tubercu-

losis, among their policy holders as well as among their employees.

These are new and advanced opinions, and portend possibilities for the future almost undreamed of. When the millions of dollars held in reserve by these stupendous financial institutions become available for the great cause of disease prevention, no longer will it be said to our shame that over 600,000 human lives are annually sacrificed in this country to preventable diseases. When we consider what these lives saved will mean to the nation, from both a humanitarian and economic standpoint, we should derive fresh inspiration to go forward more vigorously and enthusiastically in the great fight which has just begun.

Not only have our modern educational campaigns produced wonderful results in arousing the insurance companies, and instructing individual citizens in the way to live healthful lives, but we are accomplishing great things for humanity by impressing the hearts and minds of philanthropic men of wealth with the part which their money can play in this great life-saving drama, and millions have already been consecrated by them to the service of humanity. Think of being able to so impress the heart of a man with humanity's needs, and the ability of modern sanitary science to alleviate them, that he will voluntarily give millions of dollars to aid us in our efforts to lessen human suffering, lengthen human life, and thereby augment human happiness. The foundation of the Rockefeller Research Institute of New York to study tuberculosis, and the million dollar gift to eradicate the hookworm disease, are notable examples of what one man of great wealth can do when he realizes the opportunity for helpful service to humanity that modern science has opened to his view.

Health is the most valuable and most sought after individual possession, and

the health of its people is a nation's greatest asset. Yet how tardily is the national conscience awakening to this stupendous fact. It is our duty and our task to teach the people this great truth and to impress it so forcibly that legislators will be aroused to a full sense of their responsibility and give the medical profession the power in the national government which its purposes, achievements and importance demand. If convincing tangible proof of the wisdom of this step be needed it surely can be found in the marvelous result of the sanitary campaign in Panama under the efficient control of Dr. Gorgas. No well informed citizen will deny that the success attending America's effort in digging the great canal is due to the work of the sanitary corps. Modern medical science alone is responsible for our success, where France failed. She had both men and money, but she had not learned how to keep her men from dying, and sick, dying men cannot dig a ditch or build a dam. An unfaltering faith in the mosquito theory of the causation of the tropical fevers, and an unwavering, persevering persistence in the measures necessary to exterminate the cause, together with other approved modern sanitary precautions, have converted the canal zone into a healthful, pleasant place of abode, with a death rate no greater than many cities of the United States. The canal work goes swiftly forward, and presenting no insoluble engineering problems, with money and men in abundance, and the prestige of this great nation behind it, probably within five years the world will witness the wedding of the oceans, and the commerce of Occident

and Orient will pass through this wonderful waterway. Such a realization of the dream of the centuries could never have seemed so near but for the glorious work of the medical profession, the sacrifice of some of its noblest sons, Reed and Lazear, and the effect which a knowledge of these modern discoveries has produced on the legislative and executive branches of our government. No more brilliant and decisive example of the economic and humanitaian value of our profession could be desired. The result was attained by the members of the profession teaching the people the truth and meaning of the mosquito theory of disease.

It should be easy to induce our legislators to recognize the practical value of these teaching campaigns. Our own state and many others are now sending out lecturers on fruit growing and stock raising, and building experiment stations to teach the farmers soil treatment and conservation. Surely it is reasonable and practical for an awakened public to demand that the state constantly maintain in the field, a corps of medical lecturers to teach the conservation of human lives, by instructing the people how to avoid and detect disease.

In conclusion, I agree with Mr. Rittenhouse, that:

"If practical and permanent assistance along the lines indicated is forthcoming from public and private sources, how to live a healthful life; how to guard against and detect disease, will, in the course of time, become matters of common knowledge among our people. A higher standard of life would result, and the uplift would be a moral as well as a physical one, for to war against disease and wrong living is to war against poverty, immorality and crime."

TENNESSEE STATE MEDICAL ASSOCIATION.

GENERAL SESSION.

Minutes of the Seventy-Seventh Annual Meeting, Held at Memphis, April 12, 13 and 14, 1910.

First Day—Morning Session.

TUESDAY, April 12, 1910.

The Association met in the Assembly Hall of the Gayoso Hotel at 10 a. m., and was called to order by the Chairman of the Committee on Arrangements, Dr. Battle Malone.

Prayer was offered by Rev. J. T. Meyers, of Memphis.

Dr. Malone then introduced Dr. J. H. E. Rosamond, of Memphis, who delivered the address of welcome on behalf of the Shelby County Medical Society.

The response to the address of welcome was delivered by Dr. L. E. Burch, of Nashville.

Dr. BURCH said:

Mr. President, Ladies and Gentlemen: It gives me great pleasure this morning to respond to the cordial address of welcome that we have received. After the description that we have heard of this beautiful city I can now easily understand why New York is called the Memphis of the East. (Laughter.) We have met here on many occasions in the past and all of the meetings were a brilliant success from every standpoint.

The object of a medical meeting is for three purposes. First, and most important, that the laity shall be educated in the principles of general hygiene, and in the prevention of communicable diseases. The next purpose to be accomplished is a more selfish one, and that is, that we, as individuals, may profit by these papers and discussions and take back home valuable points of knowledge that we did not have before, and give our patients the advantage of them. The third and last, but not the least important, is the social side of medical meetings. It gives the doctor a chance

to meet his brother practitioner and to talk over with him his successes and his failures. It gives him an opportunity to discuss the obstacles that he has to overcome, and we find out that other men are in the same position that we are; that they have to make the same fights that we do and it gives us a broader conception of our professional obligation. Mark Twain once remarked that a cat might sit on a hot stove lid, but that a cat would never sit on a hot stove lid nor a cold one for that matter. (Laughter.) We have been to Memphis, as I said before, on several occasions, and we did not find it either hot or cold. We found it pleasant. We have come again and when you give us the invitation we will be delighted to return. (Applause.)

After announcements by the Chairman of the Committee of Arrangements, the President, Dr. Jere L. Crook, Jackson, was introduced, and took charge of the meeting.

The reading of papers was proceeded with.

Dr. L. E. Burch, of Nashville, read a paper entitled "Enlargement of the Prostate."

Dr. Bransford Lewis, of St. Louis, Missouri, read a paper (by invitation) entitled "Diagnosis and Treatment of Prostatic Obstruction."

Dr. George R. Livermore, of Memphis, read a paper entitled "Chronic Prostatitis."

These three papers were discussed together.

The discussion was opened by Dr. Miller, and continued by Drs. Crisler, Jelks, Martin, Barr, Handley, and the discussion closed by Dr. Lewis.

On motion of Dr. Rosamond, Dr. Dock, New Orleans, Dr. Lewis, St. Louis, Missouri, and Dr. Charles Wardell Stiles,

Washington, D. C., were extended the privileges of the floor.

On motion of Dr. Witherspoon, the Association then adjourned until 2 p. m.

First Day—Afternoon Session.

The Association reassembled at 2:30 p. m., and was called to order by the President.

Dr. Frank A. Jones, of Memphis, read a paper entitled "The Clinical Significance of Silent Fluids in the Thoracic Cavity," which was discussed by Drs. Witherspoon, McElroy, Dock, and the discussion closed by Dr. Jones.

Dr. J. A. Sewell, of Rockwood, read a paper entitled "Pellagra, with Report of a Remarkable Case."

Dr. John L. Jelks, of Memphis, followed with a paper entitled "Amebiasis Complicated in One Instance of Pellagra; In Another by Eighteen Adenomata."

These two papers were discussed together by Drs. Dock, Leroy, Haas, Krauss, Savage, Evans, Martin, Litterer, Hopper, and in closing by Dr. Jelks.

Dr. W. L. Simpson, of Memphis, read a paper on "Symptoms and Effects of Adenoids."

This paper was discussed by Drs. Savage, Herron, and in closing by the author of the paper.

Dr. W. T. Swink, of Milan, read a paper on "Trifacial Neuralgia."

This paper was discussed by Drs. Black, Eve, and in closing by Dr. Swink.

Dr. J. H. Carter, of Memphis, read a paper entitled "Salpingitis and Its Treatment."

Paper was discussed by Drs. Black, Burch, and in closing by the essayist.

The Secretary presented a communication from the Secretary of the State Board of Health of Tennessee, which was endorsed by the House of Delegates. (For details, see report of the House of Delegates.)

On motion, the Association adjourned until 8 p. m.

First Day—Evening Session.

The Association reassembled at 8 p. m. at the Goodwin Institute and was called to order by the President.

President Crook delivered his address. He selected for his subject "The Higher Mission of the Doctor."

A special order for the evening was a Symposium on Hookworm Disease.

Dr. Charles W. Stiles, U. S. Public Health and Marine Hospital Service, spoke on the "Discovery, Distribution, and Consequences," his remarks being illustrated by numerous stereopticon slides.

Other papers on the subject were read as follows: "Symptomatology and Diagnosis," by Dr. George Dock, of New Orleans, Louisiana. "Clinical Manifestations," by Dr. Louis Leroy, of Memphis. "Pathology and Report of Work Along This Line," by Dr. G. Newton Evans, of Nashville. "Hookworm Dissection, with Reference to the Non-Oviparous Female," by Dr. William Litterer, of Nashville.

On motion, the Association adjourned until 9 a. m., Wednesday.

Second Day—Morning Session.

WEDNESDAY, April 13, 1910.

The Association met at 9:30 a. m., and was called to order by the President.

Dr. G. G. Buford, of Memphis, read a paper entitled "Surgical Aspect of Epilepsy, with Report of Cases."

Discussed by Drs. Eve, Crook, Witherspoon, and the discussion closed by Dr. Buford.

Dr. George E. Petty, of Memphis, read a paper on "Treatment of Acute Ailments Occurring in Persons Addicted to the Habitual Use of Narcotic Drugs."

This paper was discussed by Drs.

Rucker, Malloy, Stevens, Witherington, and in closing by the essayist.

Dr. Duncan Eve, Jr., of Nashville, read a paper entitled "Sprained Ankle," which was discussed by Drs. Crook, Miller, Rucker, and in closing by the essayist.

Dr. G. C. Savage, of Nashville, read a paper on "Treatment of Acute Otitis Media," which was discussed by Drs. Graddy, Herron, Dulaney, Waller, Stephenson, and in closing by the essayist.

Dr. M. C. McGannon, of Nashville, read a paper on "Cases of Gastric Surgery."

This paper was discussed by Dr. Barr, and the essayist.

On motion, the Association adjourned until 2 p. m.

Second Day—Afternoon Session.

The Association reassembled at 2 p. m., and was called to order by the President.

Dr. J. A. Walker, of Trenton, read a paper entitled "Pneumonia," which was discussed by Drs. Hawkins, Witherspoon, and in closing by the author of the paper.

Dr. S. S. Crockett, of Nashville, read a paper entitled "The Nervous Unfit."

Discussed by Drs. Rucker, Buford, McGannon, and in closing by the essayist.

Dr. Bransford Lewis, of St. Louis, Missouri, reported a case of removal of stone from the ureter by means of the cystoscope.

Dr. W. H. Allport, of Chicago, read a paper entitled "Observations on the Diagnosis of Retroperitoneal Enlargements."

This paper was discussed by Drs. Malone, Lewis, Smythe, and in closing by the author.

Dr. Herman Hawkins, of Jackson, read a paper entitled "A Leaf from the Catechism of Pediatrics."

Discussed by Dr. Witherspoon.

Dr. J. L. Minor, of Memphis, read a paper entitled "Ophthalmia Neonatorum."

Dr. O. Dulaney, of Dyersburg, read a paper on "Purulent Ophthalmia."

These two papers were discussed together by Drs. Savage, Ellett, Herron, Allen, Litterer, Price, Andrews, and in closing by the essayist.

On motion, the Association adjourned until 8 p. m.

Second Day—Evening Session.

The Association reassembled at 8 p. m., and was called to order by Vice-President Dulaney.

Dr. E. M. Sanders, of Nashville, read a paper entitled "Tumors of the Bladder."

This paper was discussed by Drs. Holder, Crook, Lewis, and in closing by the author.

On motion of Dr. Dulaney, a vote of thanks was extended to Dr. Bransford Lewis for his valuable paper and discussions.

Dr. Ambrose McCoy, of Jackson, read a paper entitled "A Plea for a Higher Standard of Medical Education."

This paper was discussed by Drs. Hawkins, Witherspoon, Henning, and Buford.

Dr. A. B. Cooke, of Nashville, read a paper entitled "Subphrenic Abscess; Report of a Case in which Rupture into a Bronchus Occurred."

Dr. J. J. Waller, of Oliver Springs, read a paper entitled "Report of a Case of Subphrenic Abscess."

These two papers were discussed together by Drs. Jones, Meeker, and in closing by Dr. Cooke.

On motion, the Association adjourned until 9 a. m., Thursday.

Third Day—Morning Session.

THURSDAY, April 14, 1910.

The Association met at 9:45 a. m., and was called to order by the President.

Dr. N. F. Raines, of Memphis, read a paper on "The Failure to Report Com-

municable Diseases a Criminal Disregard of Law."

This paper was discussed by Drs. Griffin, Witherspoon, and in closing by the author of the paper.

Dr. M. R. Farrar, of Nashville, read a paper entitled "Present Status of Electro-Therapeutics," which was discussed by Dr. Livermore, and in closing by the essayist.

Dr. John Overton, of Nashville, read a paper entitled "Therapeutic Indications for Lumbar Puncture," which was discussed by Drs. Eve, Witherspoon, and in closing by the essayist.

Dr. E. M. Beasley, of Coal Creek, read a paper entitled "Report of a Supposed Case of Ascites."

Discussed by Drs. Waller, Evans, and in closing by the essayist.

The Secretary read the report of officers elected by the House of Delegates. (See minutes of the House of Delegates.)

The President appointed Drs. Evans and Johnson to escort the President-elect to the chair.

Dr. WITHERSPOON, in accepting the presidency, said:

Fellow Members of the Tennessee State Medical Association: While I have had a few medical honors conferred on me in my life, more or less undeserved, I want to say to you very frankly that the endorsement by my home people and by my home society is to me of far greater value than any honor that could be conferred on me from any other source in the world. I feel that a man who is endorsed to occupy a position in his own state that has been so honorably filled by men of national reputation ought to feel proud that his own people, at least, feel that he is worthy of the honor of president of their principal body. I want to say to you from the bottom of my heart, I thank you and I will do my best to make you a good officer. I shall try in every way to bring about what ought to be the only function of a state medical society, and that is a higher standard of proficiency and a more universal good fellowship. Gentlemen, I thank you. (Applause.)

Dr. G. G. BUFORD: I have here a greeting from the Arkansas State Medical Association. Dr. G. A. Warren is here and I move we accord to him the privilege of the floor.

Seconded and carried.

Dr. WARREN said:

I was appointed as a messenger from the Arkansas Medical Society to this society to bring to you greetings of our feelings of brotherhood from one society to another. There was a resolution passed last year by our society that this be done where practicable, especially to our sister society. We had as a messenger from the Louisiana State Medical Society last year a young man from Baton Rouge whom we were very glad to have and welcomed. It is our wish as a state society that the time will soon come, and it is rapidly approaching we hope, when there will be general reciprocity among the state boards and state associations, when a man from one state, after having once registered, can be accepted and go in and be received with open arms, so to speak, by a sister state, and as a representative of the Arkansas Medical Society I want to invite you, as many of you as can come, to Little Rock this year to attend our meeting in May. We will be glad to have you, and give you such a welcome as we can. In the name of that society, I am glad to greet you. (Applause.)

THE PRESIDENT: We appreciate so much these remarks coming from a representative of our sister society and I am going to ask our Secretary to make a few remarks in response to those made by the gentleman representing the Arkansas State Medical Society.

Dr. GEO. H. PRICE: It is with a great deal of pleasure that the Tennessee State Medical Association receives this fraternal delegate from the medical association of the State of Arkansas. If there is any one thing for which the medical profession should stand, it is for unity of purpose and fellowship of the profession. The time is indeed propitious, and I believe from the indications that it is not

far distant when every reputable member of the profession in Tennessee or Arkansas, or any other state, who stands for what is right, what is true, what is good, what is honest, what is ethical in the profession of medicine, shall be recognized not only in his own state, but in every state in this broad union that is in affiliation with the great American Medical Association, and I feel sure that by such acts as this, that the time will be hastened when there shall exist that unity of interest which should exist throughout the various states, not only in this immediate section, but in this great country at large.

For the State Medical Association of Tennessee, I beg the representative from Arkansas, that when he shall return, he will express to the association of his native state our thanks for this evidence of professional friendship, and extend to them our sincerest hopes and best wishes for their continued success and prosperity at home. (Applause.)

DR. S. S. CROCKETT: I think it would be entirely appropriate for this Association to send a telegram of felicitation and good fellowship to the Medical Association of the State of Mississippi in session at this time. I would move, therefore, that our Secretary be instructed to send such a telegram to the Association of the State of Mississippi now in session at Oxford.

This motion was seconded by several and carried by a rising vote.

Dr. J. W. Stevens, of Nashville, read a paper entitled "Manic Depressive Insanity," which was discussed by Drs. Crockett, Waller, Buford, and the discussion closed by the author of the paper.

Dr. Dulaney moved that the Secretary be instructed to communicate the thanks and appreciation of the Association to

those women who have taken such an active part in ridding the state of tuberculosis, particularly to Mrs. Crockett and others.

Seconded and carried.

Dr. Robert Fagan, of Memphis, read a paper entitled "Foreign Bodies in the Eye."

Discussed by Drs. Dulaney, Farrar, Burns, Holder, Hawkins, Evans, and in closing by the essayist.

On motion of Dr. Dulaney, the Association adjourned until 1:30 p. m.

Third Day—Afternoon Session.

The Association reassembled at 1:30 p. m., and was called to order by President Witherspoon.

Dr. H. E. Christenbery, of Knoxville, read a paper entitled "Do Maternal Impressions Affect the Child?"

Discussed by Drs. Sanford, Gillespie, Witherspoon, and in closing by the essayist.

Dr. Woodson moved, and Dr. Price seconded, that a vote of thanks be extended to the physicians of Memphis for their entertainment, to the newspapers, to the hotels, and to the railroads for their courtesies.

Before putting the motion, President Witherspoon said: No meeting I have ever attended has been more pleasant, and at no place has the profession ever used itself so willingly to entertain us, and I feel that the motion ought to be put by rising.

This was accordingly done, and was unanimous.

As there was no further business to come before the meeting, President Witherspoon declared the Association adjourned to hold its next annual meeting at Nashville.

MINUTES OF THE HOUSE OF DELEGATES.

First Session.

TUESDAY, April 12, 1910.

The House of Delegates was called to order at 1:40 p. m. by Dr. J. B. Murfree, who, in the temporary absence of President Crook, on motion of Dr. Savage, was chosen Chairman.

The minutes of last year were published in the May (1909) issue of the JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION, had been read by the members, and therefore their reading was dispensed with.

Secretary George H. Price read his annual report.

SECRETARY'S REPORT.

To the Officers and Members of the Tennessee State Medical Association:

MR. PRESIDENT AND GENTLEMEN: AS Secretary, I herewith submit my report for the year just closed. We have at present, sixty (60*) county societies, having added since last year four (4), which are as follows: Claiborne, Morgan, McNairy and Wilson. Of those that have reported for the year, we have enrolled on the county lists 1,288, of which number 1,150 have paid subscription, which constitutes state dues. Of the ninety-six counties in the state, we now have sixty affiliating with the state organization through county organizations.

This is an evidence of the fact that there is a growing general interest throughout the state, still there is great lack of county effort to maintain active societies. There seems to be an idea prevailing that the only thing necessary to do is to meet, organize and then lapse into a dormant state, until the approach of the state meeting and then make an effort to stir up interest enough to have a meeting and elect officers and delegates, then lapse again into a most passive form of life. I am not able to say why such is the case, for wherever active societies exist there is much interest and

a much better feeling and professional fellowship.

At the beginning of the year I had printed and sent to each District Councilor, special stationery for his use. This, I am satisfied, has been used by some, but I am afraid that some have allowed the opportunity to pass without making much use of it.

In order to aid in this work, I had made a special map of the state divided into Councilor Districts and this has appeared from month to month in the JOURNAL, so as to keep this feature before the minds of the Councilors, and I trust it has been useful.

THE JOURNAL.

The JOURNAL has been issued each month since our last meeting. The main body of it has been made up of papers and discussions from our last meeting held in Nashville. This material was not quite sufficient to fill every issue of the JOURNAL by reason of the fact that some of those who were upon the program failed to attend and present the papers, and then a few who were present, failed to read their papers and turn them over to the Secretary. This shortage was compensated for by special calls and requests, which finally resulted in filling the JOURNAL for the year, without having to go outside, except in a very few instances. It seems a difficult matter to get members to prepare papers for the county societies, and then after reading them and having them discussed, send them to the JOURNAL for publication, one of the objects of the publication of the JOURNAL. It is to be hoped that this will not continue in the future to the extent it has in the past. The JOURNAL has been printed this year in an enlarged and attractive form, being a double column volume.

The amount of advertising carried in the past year has increased. The class has been high, though the amount has not been so great as was expected. The reason for this lies, perhaps, in the fact, that this matter was to be under the direction of the Trustees, but as these were widely scattered and so full of their own affairs that they could not devote much time to this.

The cost of publishing the JOURNAL for the past year contemplated an increase in the expense, as it was decided to make the publication

*Three counties have reported to the Council, but not to the Secretary, making 63 organized.

a double column paper, which requires an increase in the cost of typesetting, amount of paper, printing, binding and all other incidental expenses connected with the enterprise.

Again, as the JOURNAL is the official organ of the Association, for all purposes, the chief expense of the office of Secretary and Editor would be incident to the publication of this organ, as all expenses were either directly or indirectly incurred for the JOURNAL, hence in summing up the cost of the publication this year the expenses of the Secretary and the Editor would constitute this cost.

The total expense of typesetting, printing, binding, and mailing of the JOURNAL, together with all supplies of stationery for office and various officers of the Association, circular letters, special and general, as well as postage, telephone calls and telegrams, also salary of stenographer and Secretary-Editor as shown by financial report of Secretary-Editor are as follows:

GENERAL STATEMENT.

Balance on hand April 14, 1909.....	\$ 35 57
Total received since April 14, 1909....	2,503 25
	<hr/>
	\$2,538 82

These funds are from following sources:

Balance, April 14, 1909.....	\$ 35 57
From Treasurer W. C. Bilbro.....	1,867 83
From Advertisements	635 42
	<hr/>
	\$2,538 82

Disbursed:

Total Expense of Office of Secretary-Editor, including salaries of stenographer, Secretary-Editor, and general incidentals as per report herewith	\$2,245 79
	<hr/>
	\$ 293 03

Cash Transfers to Treasurer by Secretary	20 00
	<hr/>

Balance due Association	\$ 273 03
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Analysis of Expense Account:

Cost of JOURNAL, including all fixed and incidental charges, is.....	\$2,245 79
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From this should be deducted:

Amount received from Advertisement up to date.....	\$635 42
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Cost of publishing and distributing Constitution and By-Laws and Code of Ethics	60 00
Cost of programs and badges for this meeting.....	38 50
	<hr/>
	\$733 92

Ads unpaid, but I regard as perfectly good	86 87
	<hr/>

\$ 820 79

Actual cost of JOURNAL for twelve monthly issues of 1,500 copies each \$1,425 00

Average cost of issue of 1,500 copies..	\$ 118 75
Average cost of copy per issue.....	.079
Average cost of year's subscription..	.948

It might be well to state in this connection that we have contracts for advertisements now running in the JOURNAL amounting to \$470.00, which with some additional help from sources hereafter suggested, might be increased two or three times this amount. When we take these facts and figures into consideration, we should be encouraged, for when this organ of the Association is fully developed, and made use of by the county societies and individual members, as it should and could be, its influence for good will be greatly enhanced. The conduct of the combined office of Secretary-Editor is one which requires and takes much time and actual labor, and to be carried on successfully requires some expense. The amount of time necessary for this is a little more than one man should be expected to devote to it. There should be some one selected to help in this department, who would be in close touch with this official, who could and would be depended on to help in this work, and especially push the advertising feature, which would increase the income and cut down the cost. I believe the gain in this would more than pay the additional cost and would warrant the trial.

On motion, the report was received and placed on file.

The report of the Committee on Public Policy and Legislation was called for, and, in the absence of Dr. Crockett, Chairman of the Committee, Dr. A. B. Cooke was asked to speak on legislative matters.

Dr. Cooke said: I do not feel author-

ized to make a report for the Committee on Public Policy and Legislation of this Association, as I was not a member of that committee, although during the year I coöperated with the members very actively all through the stormy and tempestuous session of our last legislature. We had a number of vitally important bills before the last legislature. One a new medical practice act; one on uniform vital statistics; another providing for a State Board of Health and a State Board of Medical Examiners, the board to be selected by the Governor from a list of names submitted by the State Medical Association. These measures failed to become laws for the reasons that conditions in the last session of the legislature were such that these bills did not receive the attention of the legislature they deserved. Several of these measures were acted upon in the senate favorably. The medical practice act was passed by the senate. It was considered and recommended by the house committee, but never came up for final action in the House. The reason it did not come up was because there are certain itinerant patent medicine vendors in the state who are being licensed by the county court clerks in the various counties of the state to peddle medicines throughout the territory, and it appears they became very apprehensive over some of the provisions of this proposed law, that if it were enacted it would do away with the possibility of their continuing in their present line of work. The business these people are conducting at present is illegal, and if we could get the county court clerks to take the proper steps they could be stopped.

We succeeded in preventing some proposed legislation that was decidedly inimical to the interests of the medical profession of the state. The measure I refer to is an effort again to emasculate the

pure food law. The same elements were at work that appeared in opposition to the original enactment of that law, and gave us such a hot fight two or three years ago. We appeared before the House Committee and discussed fully and freely the proposed amendment to the pure food and drug law, which were recommended for rejection, and never heard of the matter again during the session of the legislature.

With reference to the national legislative committee of the American Medical Association, I attended that meeting in Chicago March 1 and 2. There were twenty-six or twenty-eight states represented in that conference, and a great deal of very interesting work was done. One of the measures was uniform vital statistics, which we had up at the last session of the legislature, but failed to pass. Another measure is the drafting of a model medical practice act, covering the features of reciprocity and of state licensure in all states of the Union. Another measure brought up and discussed, and resolutions adopted thereon, was looking to the creation of a Department of Public Health of the Federal Government. In that connection, I may say that there is a bill now pending in the Federal Congress for the establishment of a Department of Public Health, giving the Secretary of this Department, when created, a position in the president's cabinet.

The session lasted two days. It was enthusiastically conducted, and there seems to be a strong spirit prevailing among the members of the council to work hard. This is the third meeting I have attended, and it has been evident to me that each succeeding meeting has been attended with great interest in every direction.

As I view the situation, it occurs to

me, growing out of this work, that there are large things for the medical profession of this country, and if antagonistic elements can be kept down and we can work harmoniously, the work can be carried on successfully along the lines already projected.

On motion, the report of Dr. Cooke was adopted.

The Secretary read a communication from Dr. McCormack with reference to a bill looking to the establishment of a Department of Public Health.

CONGRESS HALL HOTEL, WASHINGTON, D. C.

APRIL 5, 1909.

DR. GEORGE H. PRICE, *Secretary*,
Nashville, Tennessee.

DEAR DOCTOR: I will be here for the next few weeks in the interest of our national legislation, and am sending you under separate cover the bill and speech of Senator Owens, with the request that you send me criticisms of the former for submission to him.

His speech has aroused much interest here, and at a conference held before my arrival, attended by Welch, Reed, Fisher, the Sage Foundation people, some Senators, Representatives and others, it was decided to modify the bill in the light of such suggestions as might come in, have it introduced in the House also, and arrange for a joint hearing before the two committees during the conference of State and Provincial Boards of Health to be held here the last of this month, and press it for passage at this session.

The support the measure is receiving from the press in many sections of the country is really remarkable, and as a result of this many letters and resolutions of endorsement are already coming in to members of Congress from both lay and medical organizations, and a number of leading members of Congress have already promised Senator Owens their active support. To save delay and trouble the councils of several state organizations and boards of health are securing strong endorsements by referendum, and will follow this by wider action in local organizations both in and out of the profession. In truth one of my chief encouragements is the support the movement is receiving from lay people everywhere, and the insistence that at least as much protection be

given the health and life of human beings, the nation's greatest asset, as is so generously and properly given to domestic animals.

Senator Owens considers the support of Senators Frazier and Taylor very important, as is that of your representatives in the House, and I am writing to ask you to take the matter up with your boards and societies, state and local, boards of trade, educational and lay organizations and similar bodies in such a far reaching way as will make the movement irresistible. I will want to talk with these gentlemen later, but will not do so until they hear from their own constituents and know from them why I am here.

The idea of a full department instead of a bureau seems to find favor with all classes. The President tells Senator Owens that he does not oppose it, and we owe much to the Senator for taking up and pressing this point. In fact, we owe him everything for the heart and intelligence he has put in his work. He has had 10,000 copies of Fisher's Report on National Vitality, which ought to be in every home, printed as a senate document, will have 500,000 more gotten out if necessary, and he will be glad to send copies free to any person upon request. Please send him copies of all endorsements, which I will see, that we may know when to consult your members. Relying upon your active and prompt support, as also to Dr. Cooke, to whom I have also written, I am, cordially yours,

J. N. McCORMACK.

Dr. Cooke presented the following resolutions as bearing on the communication of Dr. McCormack:

WHEREAS, Senator Robt. L. Owen, of Oklahoma, has introduced a bill into the United States Senate providing for the establishment of a Department of Public Health; and

WHEREAS, This measure is in full accord with the policy long advocated by the medical profession; and

WHEREAS, We are convinced that its enactment into a law would promote immeasurably the welfare and prosperity of the nation by rendering it possible to save lives which are being needlessly sacrificed and to prevent disease which we know to be preventable, therefore, be it

Resolved, by the Tennessee State Medical Association, in regular annual session assembled, that we endorse the proposed legislation as in

the highest degree wise and beneficent, and that we respectfully urge our senators and representatives in Congress to give it their earnest support and to coöperate in every way in furthering its consideration and passage at the present session. Be it further

Resolved, that we commend this movement as in our judgment the most important which could possibly engage the attention of Congress. While we recognize the desirability of commercial and industrial advancement we would emphasize the self-evident fact that this and all other considerations of material prosperity are subordinate to and dependent upon the health of the population. Be it further

Resolved, That a copy of these resolutions, duly signed by the President and Secretary, be sent to Senator Owen and to each of our Congressmen from Tennessee.

Dr. Duncan Ewe moved the adoption of the resolutions. Seconded.

After discussion, which was participated in by Drs. Crook, Savage, Ellett, Miller, the resolutions were adopted.

Dr. Ellett moved that each county medical society be communicated with for the purpose of getting the influence of commercial and business bodies to bear on our representatives in Congress in support of this bill.

Seconded and carried.

Dr. Cooke moved that the question of endorsement of a Department of Public Health be referred for action to the Councilors of the State Society with instructions to act as quickly as possible.

Seconded and carried.

The Secretary read a communication from the Secretary of the Tennessee State Board of Health.

DR. GEORGE H. PRICE,

Secretary State Medical Society, Nashville, Tenn.

DEAR DOCTOR: The enclosed resolution, which was passed at the Conference of State, County, and City Health Officers, which met in Nashville, April 6th and 7th, in the Senate Chamber, is self-explanatory.

This resolution, as you will see, I was directed to send to you, as the Secretary of the

State Medical Society, with the request that the same be brought to the attention of the coming meeting of the State Medical Association, which takes place in Memphis the 11th and 12th of this month.

Very respectfully,

STATE BOARD OF HEALTH,

By J. A. ALBRIGHT,

Secretary and Executive Officer.

WHEREAS, It has been the almost unanimous report of the various Health Officers of the State of Tennessee assembled in the Annual Conference of the Tennessee State, County, and City Health Officers, that the efficiency and harmony of their work has been materially embarrassed and hampered through lack of coöperation of the various practicing physicians of the state; and

WHEREAS, This lack of coöperation has not been, in the main, through lack of friendliness, but simply through a carelessness or negligence in reporting cases of contagious diseases and making such other reports as are directed by the laws of the state; therefore be it

Resolved, That this Conference earnestly and respectfully call attention to these conditions to the physicians of the state through the State Medical Society, and County Medical Societies. And fraternally urge upon them the desirability, importance, and necessity of a closer conformity with the requirements of the law, in order that the health administration of the state may be more efficiently and expeditiously conducted, the public health and welfare demanding it, and making this petition imperative; be it further

Resolved, That a copy of this resolution be forwarded to the Secretary of the State, and each County Medical Society.

Fraternally and respectfully signed,

T. E. ABERNATHY, M. D., *President*,

M. A. BLANTON, M. D., *Secretary*,

of the Conference of State, County, and City Health Officers of Tennessee.

Dr. Savage moved that the communication be endorsed. Seconded.

Dr. McGannon moved to amend; that the communication be endorsed by the House of Delegates and read by the Secretary to the general meeting.

The amendment was seconded, accepted,

and the original motion as amended was carried.

The House took a recess of three minutes for the purpose of selecting members of the Nominating Committee.

On reconvening the Secretary announced the following Committee on Nominations:

WEST TENNESSEE.

G. B. Gillespie, Covington.
E. C. Ellett, Memphis.
J. W. Sanford, Ripley.

MIDDLE TENNESSEE.

A. B. Cooke, Nashville.
A. F. Richards, Sparta.
L. M. Woodson, Gallatin.

EAST TENNESSEE.

B. M. Tittsworth, Jefferson City.
J. A. Sewell, Rockwood.
B. D. Bosworth, Knoxville.

On motion of Dr. Crook, these gentlemen were elected members of the Nominating Committee.

As there was no delegate from Hickman County present Dr. McGannon moved that Dr. Stephenson be appointed as delegate to represent that county.

Seconded and carried.

On motion, the House of Delegates adjourned until 8:30 a. m., Wednesday.

Second Session.

WEDNESDAY, April 13, 1910.

The House of Delegates met at 8:30 a. m., and was called to order by Dr. Duncan Eve, who, on motion of Dr. Savage, was chosen temporary chairman, in the absence of President Crook.

On motion of Dr. Cooke, the Committee on Memoirs was given time to hold a meeting and present its report tomorrow (Thursday).

Under Reports of Councilors, Dr. Savage, chairman, said: There are 63 counties with medical organizations, and 33 counties without medical organizations. There are ten Councilors, one for each Congressional district. I wrote last year to every Councilor, as Chairman of the Board of Councilors, and outlined to him his work as I could see it. I showed him the number of counties in his district unorganized, and told him he was requested to see to it that organization was effected in those counties. I received replies from four members of the board. I do not know why I did not get any communication from the others during the entire year. I heard from Dr. Woodyard the day I left home. He has had sickness in his family which interfered greatly with his work. He is Councilor of the first district.

In the second district Dr. Miller effected a new organization in only one county, doing good work. I did not hear from Dr. West of the third district. Dr. Woodson has succeeded in getting the profession in Wilson County together, and they have an organization that promises well. There are three more counties to organize in his district. I failed to get a report from Dr. Hardison of the fifth district during the year. I do not recall how many counties there are in his district that are unorganized, but there are some. My own district (the sixth) has two counties that are unorganized, and those two counties have very few physicians in them. Houston and Stewart are the two. Some of the profession in Stewart County have associated themselves with the profession in Montgomery County. I think eventually we will get all of our counties in this district into line, not with large organizations, but with small ones that can be represented. Dr. Howlett succeeded in organizing a

society in Lawrence County. He has out several counties yet. Dr. E. K. McNeil, Councilor of the eighth district, has been unable to effect any change in medical matters in his district, on account of illness and having to go West. Several counties in eighth district are unorganized, and it is hoped these counties will be brought into line.

Dr. G. W. Penn is Councilor of the ninth district, and every county in this district is organized. In the tenth district, of which Dr. Louis Leroy is Councilor, every county has its organization.

As I have said, we have 33 counties out, and we ought not to be satisfied as a state medical association until every county has a medical organization, and it is to be hoped that whoever may constitute the Board of Councilors for another year, they will be able to cut down the number 33. I do not see why it should not be within the range of possibility for the Board of Councilors during the coming year to effect an organization in every one of these counties if they are properly urged to do so.

On motion, the report of Dr. Savage was adopted.

The chair appointed as Auditing Committee, Dr. J. B. Murfree, Chairman, Dr. G. C. Savage, and Dr. A. B. Cooke.

Dr. Savage suggested that the delegates to the American Medical Association draft a resolution urging the adoption of the Southern Medical Association as the Southeastern Branch of the American Medical Association. He stated that a similar resolution would be passed by all of the southern state associations. Accordingly, he made the following motion:

"I move you, sir, that our delegates, whoever they may be, be instructed to present this request from the state association to the American Medical Association and urge the adoption of the reso-

lution that will be presented at that time."

Seconded by Dr. Murfree and carried.

On motion, the House of Delegates adjourned until 1:30 p. m.

Third Session.

WEDNESDAY, April 13, 1910.

The House of Delegates reassembled at 1:30 p. m., with the President in the chair.

Dr. Ellett said there was one very important matter upon which the Committee on Public Policy and Legislation should receive specific instructions, and that is the question of incorporating in the medical practice act a provision that a man must have a diploma before he comes before the Board of Examiners for a license. He accordingly moved that the Committee on Public Policy and Legislation be instructed to that effect.

Seconded and carried.

On motion, the House adjourned until 8:30 a. m., Thursday.

Fourth Session.

THURSDAY, April 14, 1910.

The House of Delegates met at 8:30 a. m. and was called to order by Vice-President Dulaney.

The Treasurer, Dr. W. C. Bilbro, presented his annual report, as follows:

To the Officers and Members of the Tennessee State Medical Association:

Your Treasurer begs leave to make the following report:

Cash in hands of Treasurer April 15, 1909\$2,637 40

CASH RECEIVED FROM COUNTIES FOR 1910.

Anderson	\$ 20 00
Bedford	34 00
Bledsoe	
Bradley	28 00
Carroll	10 00
Campbell	36 00
Chester	10 00
Claiborne	22 00

Crockett	30 00
Davidson	204 00
DeKalb	12 00
Dickson	12 00
Dyer	44 00
Fayette	30 00
Gibson	52 00
Giles	52 00
Greene	38 00
Hamblen	40 00
Hamilton	170 00
Hardeman	20 00
Haywood	34 00
Henderson	22 00
Henry	
Hickman	14 00
Humphreys	20 00
Jackson	14 00
Jefferson	24 00
Knox	112 00
Lake	20 00
Lauderdale	36 00
Lincoln	52 00
London	14 00
Madison	58 00
McNairy	18 00
Marshall	
Maury	40 00
Monroe	28 00
Montgomery	34 00
Morgan	
Obion	32 00
Overton	8 00
Polk	14 00
Putnam	28 00
Roane	30 00
Rhea	26 00
Robertson	40 00
Rutherford	30 00
Scott	26 00
Sevier	14 00
Shelby	248 00
Smith	10 00
Sumner	28 00
Tipton	57 00
Unicoi	2 00
Washington	32 00
Warren	24 00
Weakley	14 00
Williamson	24 00
White	32 00
Wilson	22 00
	<hr/>
	\$2,145 00
	2,637 40
	<hr/>
	\$4,782 40

COLLECTIONS FOR 1909.

Shelby	\$ 20 00
Hamilton	4 00
Henry	2 00
Montgomery	2 00
Warren	2 00
Hamilton	12 00
Weakley	2 00
Morgan	8 00
Shelby	14 00
Knox	4 00
Obion	12 00
Hickman	2 00
Williamson	2 00
Montgomery	2 00
N. O. Policlinic (through Sec'y.)	5 00
Weakley	6 00
Shelby	4 00
Hamilton	2 00
Farbenfabriken Co. (through Sec'y) ..	15 00
Montgomery	2 00
Williamson	2 00
Hickman	2 00
Bradley	2 00
Overton	2 00
Hamilton	2 00
	<hr/>
	\$ 132 00
	4,782 40
	<hr/>
Total	\$4,914 40

Amount Disbursed Since Last Meeting.

1909—

Apr. 17—George H. Price	\$ 255 00
Apr. 22—Expenses to Nashville....	2 50
Apr. 29—Expenses to Nashville....	2 50
May 5—Telephone	25
May 7—Expenses to Nashville....	2 25
May 7—Marshall & Bruce	549 44
June 2—L. A. Yarborough	50 00
June 2—S. S. Crockett	50 00
June 18—Marshall & Bruce	157 64
June 18—Miss Whitson	10 00
June 18—Expenses to Nashville....	2 00
July 2—William Whitford	144 75
July 21—Marshall & Bruce	144 22
Aug. 6—Marshall & Bruce	117 04
Aug. 25—George Price, Incidental Expenses	25 00
Sept. 3—Marshall & Bruce	98 08
Oct. 5—George H. Price, Expenses	50 00
Oct. 12—Marshall & Bruce	115 94
Nov. 17—Marshall & Bruce	90 40
Dec. 8—Marshall & Bruce	91 53
Dec. 10—George H. Price, Salary..	300 00
Dec. 31—George H. Price, Expenses	100 00

1910—

Jan. 4—Marshall & Bruce.....	92 21
Feb. 18—Marshall & Bruce.....	77 06
Mch. 12—Marshall & Bruce.....	123 38
Mch. 16—A. B. Cooke	40 00
Jan. 7—L. Burgdorf.....	4 45
Mch. 1—G. H. Price	200 00
Apr. 6—Marshall & Bruce.....	75 33
Apr. 7—Expenses to Nashville....	3 50
Apr. 7—Staump Account	10 00
Apr. 1—Home Journal Printing...	7 25
Apr. 1—Premium on Treasurer's	
Bond	25 00

\$3,016 72

GENERAL STATEMENT.

Amount on hand April 15, 1909.....	\$2,637 40
Amount Received from Counties for	
1910	2,145 00
Amount Collected on 1909.....	132 00
Total Received.....	\$4,914 40
Total Disbursed.....	3,016 72

Balance in hands of Treasurer.....	\$1,897 68
Balance in hands of Secretary.....	273 03
Total balance.....	\$2,170 71

THE SECRETARY: The accounts of the Treasurer have been audited by the Auditing Committee. The report of this committee is as follows:

We, the Auditing Committee, beg to report to the House of Delegates that we have carefully gone over the receipts, vouchers and papers of the Treasurer, and find his report as submitted full and correct.

Signed,

J. B. MURFREE.

G. C. SAVAGE,

A. B. COOKE.

SECRETARY'S FINANCIAL REPORT.

Received.

1909—

Balance on hand April 14, 1909....	\$ 35 57
Apr. 25—From Parke, Davis & Co. ad	23 74
Apr. 25—From F. A. Hardy & Co. ad	30 00
Apr. 25—From Brentanos Agency.	
Subscription	1 50
June 10—From B. D. Bosworth, re-	
prints.....	10 75

June 18—From W. C. Bilbro, Treas.	
JOURNAL, May, and stationery, etc.....	157 64
June 18—From W. C. Bilbro, Treas.	
Stenographer	10 00
July 2—From Farbenfabriken of	
Elberfeld Co., ad.....	15 00
July 21—From W. C. Bilbro, Treas.	
JOURNAL	144 22
Aug. 6—From W. C. Bilbro, Treas.	
JOURNAL	117 04
Aug. 15—From New Orleans Poly-	
clinic ad.....	5 00
Aug. 25—From W. C. Bilbro, Treas..	25 00
Sept. 3—From W. C. Bilbro, Treas..	98 08
Oct. 3—From Farbenfabriken of	
Elberfeld Co. ad.....	15 00
Oct. 5—From W. C. Bilbro, Treas..	50 00
Oct. 12—From W. C. Bilbro, Treas..	115 94
Nov. 17—From W. C. Bilbro, Treas..	90 40
Dec. 8—From W. C. Bilbro, Treas..	91 53
Dec. 11—From W. C. Bilbro, Treas..	300 00

1910—

Jan. 1—From Farbenfabriken of	
Elberfeld Co. ad.....	15 00
Jan. 1—From W. C. Bilbro, Treas..	100 00
Jan. 4—From W. C. Bilbro, Treas..	92 21
Feb. 18—From W. C. Bilbro, Treas..	77 06
Mch. 12—From W. C. Bilbro, Treas..	123 38
Mch. 1—From W. C. Bilbro, Treas..	200 00
Mch. 23—From Oxford Retreat ad...	35 00
Mch. 24—From Brentanos Agency	
Subscription	1 50
Mch. 24—From Petty & Wallace	
Sanatorium ad.	26 25
Apr. 1—From Farbenfabriken of	
Elberfeld Co. ad.	15 00
Apr. 1—From University Nashville	
Med. Dept. ad.....	145 84
Apr. 1—From Univ. Nashville &	
Univ. Tenn., M. Dept ad	93 75
Apr. 2—From Dr. Boards Sanito-	
rium ad.	14 59
Apr. 2—From W. C. Bilbro, Treas.	75 33
Apr. 5—From Vanderbilt Med.	
Dept. ad.....	60 00
Apr. 5—From Theo. Tafel Co. ad..	60 00
Apr. 7—From American Nat'l Bank	
ad	30 00
Apr. 7—From Katherine L. Stornu,	
ad.	37 60

\$2,538 82

Disbursed.

1909—			Sept. 3—To Marshall & Bruce Co., Aug. JOURNAL (V. No. 14)	98 08
Apr. 24—To Stenographer	5 00		Sept. 6—To Postage, Office	1 00
May 1—To Stenographer	5 00		Sept. 11—To Stenographer	5 00
May 3—To Standard Electric Co. (V. No. 1)	1 50		Sept. 18—To Stenographer	5 00
May 5—To Postage, Office	1 00		Sept. 23—To Mailing JOURNAL (V. No. 15)	2 91
May 8—To Stenographer	5 00		Sept. 25—To Stenographer	5 00
May 15—To Stenographer	5 00		Oct. 2—To Stenographer	5 00
May 22—To Stenographer	5 00		Oct. 7—To Postage, Office	2 00
May 26—To American District Tel- egraph Co., Distributing Transactions in City, (V. No. 2)	8 42		Oct. 9—To Stenographer	5 00
May 29—To Stenographer	5 00		Oct. 12—To Marshall & Bruce Co., Sept. JOURNAL (V. No. 16)	115 94
June 3—To mailing JOURNAL, (V. No. 3)	2 89		Oct. 16—To Stenographer	5 00
June 5—To Stenographer	5 00		Oct. 23—To Stenographer	5 00
June 5—To Maps of Tennessee for Journal (V. No. 4)	10 00		Oct. 29—To Mailing JOURNAL (V. No. 17)	2 32
June 9—To Postage, Office	2 00		Oct. 30—To Stenographer	5 00
June 18—To Stenographer, two weeks (Bilbro)	10 00		Nov. 6—To Stenographer	5 00
June 26—To Stenographer	5 00		Nov. 13—To Stenographer	5 00
June 18—To Marshall & Bruce Co., JOURNAL and printing May (V. No. 5)	157 64		Nov. 16—To Postage, Office	75
July 1—To Gray Printing Co., printing (V. No. 6)	4 00		Nov. 17—To Marshall & Bruce Co., Oct. JOURNAL (V. No. 18)	90 40
July 3—To McQuiddy Printing Co., Type. Ribbon (V. No. 7)	1 00		Nov. 20—To Stenographer	5 00
July 3—To Mailing JOURNAL, (V. No. 8)	3 35		Nov. 26—To Mailing JOURNAL (V. No. 19)	2 32
July 3—To Stenographer	5 00		Nov. 27—To Stenographer	5 00
July 10—To Stenographer	5 00		Dec. 4—To Stenographer	5 00
July 15—To Postage, Office	1 00		Dec. 8—To Marshall & Bruce Co., Nov. JOURNAL (V. No. 20)	91 53
July 17—To Stenographer	5 00		Dec. 11—To Stenographer	5 00
July 21—To Marshall & Bruce Co., June JOURNAL (V. No. 9)	144 22		Dec. 18—To Stenographer	5 00
July 24—To Stenographer	5 00		Dec. 18—To Mailing JOURNAL (V. No. 21)	2 11
July 24—To Mailing JOURNAL (V. No. 10)	2 94		Dec. 24—To Stenographer	5 00
July 31—To Stenographer	5 00		Dec. 24—To Postage, Office	3 00
Aug. 3—To Gray Printing Co. (V. No. 11)	1 50		1910—	
Aug. 6—To Marshall & Bruce Co., July JOURNAL (V. No. 12)	117 04		Jan. 1—To Stenographer	5 00
Aug. 7—To Stenographer	5 00		Jan. 4—To Marshall & Bruce Co., Dec. JOURNAL (V. No. 22)	92 21
Aug. 10—To Postage, Office	1 20		Jan. 8—To Stenographer	5 00
Aug. 14—To Mailing JOURNAL (V. No. 13)	2 47		Jan. 15—To McQuiddy Printing Co., (V. No. 23)	75
Aug. 14—To Stenographer	5 00		Jan. 15—To Stenographer	5 00
Aug. 28—To Stenographer, two weeks (21-28)	10 00		Jan. 22—To Stenographer	5 00
Sept. 4—To Stenographer	5 00		Jan. 22—To Postage, Office	2 00
			Jan. 29—To Mailing JOURNAL (V. No. 24)	1 00
			Jan. 29—To Stenographer	5 00

Feb. 5—To Gray Printing Co. (V. No. 25).....	2 75	Apr. 9—To Mailing JOURNAL (V. No. 38).....	2 63
Feb. 5—To Stenographer	5 00	In addition to above Secretary-Editor	
Feb. 12—To Stenographer	5 00	Rec'd Dec. 11, 1909, salary, \$300 00	
Feb. 18—To Marshall & Bruce Co., Jan. JOURNAL (V. No. 26)	77 06	Rec'r Mch. 1, 1910, salary. 200 00	500 00
Feb. 19—To Postage, Circular Letters, Program	15 00	Total Cost of JOURNAL.....	\$2,245 79
Feb. 19—To Stenographer	5 00	To W. C. Bilbro, Treas., Jan. 5:	
Feb. 22—To Post Cards.....	25	—To N. O. Polyclinic check	\$ 5 00
Feb. 23-28—To Mailing JOURNAL (V. No. 27).....	1 92	Jan. 22—Farbenfabriken of Elberfeld Co. check 15 00	20 00
Feb. 26—To Stenographer	5 00	Total paid out.....	\$2,265 79
Mch. 5—To Gray Printing Co. (V. No. 28).....	10 25	Total on hand and received by Secretary	\$2,538 82
Mch. 5—To Stenographer	5 00	Total disbursed	2,265 79
Mch. 10—To Mailing Constitution and By-Laws	13 00	Balance due Association.....	\$ 273 03
Mch. 12—To Marshall & Bruce Co., Feb. JOURNAL (V. No. 29)	74 38	<div>We, the Auditing Committee, beg to report that we have carefully gone over the receipts, vouchers and papers of the Secretary, George H. Price, and find his report, as submitted yesterday, to be full and correct.</div> <div>Signed, J. B. MURFREE, G. C. SAVAGE, A. B. COOKE.</div>	
Mch. 12—To Marshall & Bruce Co., 2,000 Constitution and By-Laws (V. No. 30)..	49 00		
Mch. 12—To Stenographer	5 00		
Mch. 19—To Stenographer	5 00		
Mch. 21—To Post Cards.....	75	<div>It was moved and seconded that the reports of the Auditing Committee be adopted as read. Carried.</div> <div>The Secretary presented the report of the Committee on Memoirs, as follows:</div> <div>Mr. President, and Members of the Tennessee State Medical Association:</div> <div>Within the last few months there has been placed in the hands of your Committee on Memoirs the data accompanying this report. Among the names given you you will find those of several who regularly, in the years gone by, have been quite prominent in all our annual gatherings.</div> <div>As we today perform the last sad rite of placing these names in their appropriate place in the catalogue of our honored dead, let us do so tenderly, and with a full appreciation of their distinguished worth as capable, conscientious, and devoted members of our profession, and with a well-defined sense of having sustained,</div>	
Mch. 24—To Mailing JOURNAL (V. No. 31).....	1 85		
Mch. 26—To Stenographer	7 50		
Mch. 29—To Telegram Dr. G. G. Buford, Memphis	25		
Mch. 29—To Telegram Dr. H. T. Harris, Atlanta.....	50		
Apr. 2—To Marshall & Bruce Co., March JOURNAL (V. No. 32)	75 33		
Apr. 2—To Gray Printing Co. (V. No. 33).....	3 50		
Apr. 2—To Stenographer	7 50		
Apr. 4—To McQuiddy Printing Co. (V. No. 34).....	75		
Apr. 7—To Telephone, Murfreesboro, Bilbro.....	25		
Apr. 9—To Marshall & Bruce Co., JOURNAL (V. No. 35)..	135 78		
Apr. 9—To Marshall & Bruce Co., Program and badges (V. No. 36).....	38 50		
Apr. 9—To Expressing Programs to Memphis (V. No. 37)	70		
Apr. 9—To Stenographer (2 weeks to April 16, 1910).....	15 00		

by reason of their demise, a distinct loss as a medical organization.

The following are the names of those who have died since our last report:

A. D. Scruggs, Sweetwater, Tenn.
 William Luther Nolen, Hamilton County, Tenn.
 Wade Hampton Barnett, Franklin, Tenn.
 William Hugh Moore, Viola, Tenn.
 Thade Donohue, Memphis, Tenn.
 Geo. M. Bazenmore, Cleveland.
 J. Y. Crawford, Nashville.
 John A. Beauchamp, Nashville.
 Perry E. Rainwater, Dandridge.
 A. J. Swaney, Gallatin.
 E. S. Carr, Gallatin.
 A. E. Turner, Yorkville.
 T. J. Happel, Trenton.
 Frank Hamilton, Jackson.
 M. C. Duncan, Madisonville.

Respectfully submitted,

A. F. RICHARDS,
Chairman Committee Memoirs.

IN MEMORIAM.

DR. A. D. SCRUGGS, SWEETWATER.

Dr. A. D. Scruggs was born in Monroe County, Tennessee, May 29, 1842 and died at Knoxville, Tennessee, April 9, 1909, being, therefore, sixty-six years, ten months and ten days old at the time of his death. In 1867 he was married to Miss Margaret C. Heiskell, of Sweetwater, Tenn., by whom he had five children. His two sons are dead and his two daughters and wife survive him. He was a graduate of Mossy Creek College. In 1861 he entered the Confederate service as a hospital steward of the Fifty-ninth Tennessee Infantry regiment and during and after the siege of Vicksburg was acting assistant surgeon of this regiment. He read medicine with his brother, Dr. R. F. Scruggs, and in 1865 entered Jefferson Medical College, Philadelphia, from which institution he graduated in 1867. He began practicing in McMinn County (Niota, Tenn.), continuing there with success until 1874, when he moved to Cleveland, Tenn. He was there at the head of his chosen profession until 1889. Then he moved to Knoxville and entered into active practice until 1902. He then moved to Sweetwater and was in the drug business until his death. He

was a member of the Monroe County Medical Society, Tennessee State Medical Society and the American Medical Association. He was always an active member of the society, being Secretary of the Monroe County Medical Society and ex-Secretary of Knox County Society.

Dr. Scruggs was well endowed by nature for the practice of medicine. He was gentle as a woman, quiet and retiring in manner and disposition and possessed with a great heart which went out in sympathy to the suffering of whatever station. None was too poor to elicit his best efforts and closest attention. He often said that money was not the only thing in the profession:

A gentleman and a good citizen has fallen.
 Peace be to his ashes!

J. E. DAVIS, *Chairman*,
 J. A. HARDIN,
 T. N. ROBERTS,
Committee.

WILLIAM LUTHER NOLEN, M. D.

Dr. William L. Nolen died near Salem, Va., on Jan. 1st, 1910, at the age of forty-four years. Born in Alabama; graduated at the University of New York, on Feb. 28th, 1890. Was a member in good standing of the Chattanooga and Hamilton County Medical Society, Tennessee State Medical Association and the American Medical Association.

A memorial meeting was held on Jan. 7th, 1910, by the Chattanooga and Hamilton County Medical Society at which many tributes of respect were expressed and the following resolutions adopted:

WHEREAS, Death has again invaded the ranks of the Chattanooga and Hamilton County Medical Society, claiming for its victim Dr. William Luther Nolen; therefore, be it

Resolved, In the death of Dr. Nolen the Society has lost a member who during his residence in Chattanooga contributed liberally of his time and talent to the advancement of medical science and the upbuilding of the Society of which he was at one time President and for so long an honored and enthusiastic member.

Resolved, That we extend to his devoted wife our sincere sympathy in the loss of her husband, which occurred in the very zenith of his manhood and professional activities.

Resolved, That these resolutions be spread

upon the minutes and a copy be sent to the family of our deceased brother.

Signed,

DR. E. B. WISE,

DR. W. G. BOGART,

DR. FRANK TRESTER SMITH,
Committee.

JAMES H. ATLEE, *Vice-Pres.*

H. P. LARIMORE, M. D., *Sec'y.*

W. H. BARNETT, M. D., FRANKLIN.

Wade Hampton Barnett was born in Kentucky, May 11, 1873. Died at his home near Franklin, Tenn., Feb. 28th, 1910.

He graduated from the Medical Department, University of Louisville in 1873 and immediately entered into the practice of medicine in Williamson County, Tenn.

Dr. Barnett took an active interest in everything pertaining to his profession, was one of the most enthusiastic and valuable members of his County Society and served as Vice-President and President thereof. He was also a member of the Tennessee State Medical Society and of the American Medical Association.

He was devoted to his work, up-to-date in his methods, had built up a large practice, and was quite successful from both a professional and financial standpoint. Just before his health began to fail he had built an ideal country home with all conveniences.

He was married in December, 1901, to Miss Sallie Hardeman, who, with three children, survives him.

K. S. HOWLETT, *Secretary,*
Williamson County Medical Society.

WILLIAM HUGH MOORE, VIOLA.

Dr. William Hugh Moore was born at Bradyville, Cannon County, Tennessee, April 14th, 1853. Finished his literary education at that place. Attended medical college in Nashville from 1875 to 1879. Located at Hillsboro, Tenn., and practiced medicine one year. From there he came to Viola, Tenn., and practiced constantly until January 19, 1910, when he went to Florida for his health. The only intermission during that time was a course of lectures at Vanderbilt University in 1889.

He was married to Miss N. G. Witherspoon, at Beech Grove, Tenn., March 10th, 1881. Six children survive this union.

He was married to Mrs. Lida Wharlin Heane, of Woodbury, Tenn., Oct. 17, 1906.

He died in Pensacola, Fla., Feb. 11, 1910.

His remains were brought home and laid to rest in the Viola cemetery Feb. 14, 1910.

In the death of Dr. Moore we have sustained a distance loss, for a true man, faithful friend and exemplary physician has fallen.

Respectfully,

T. O. BURGER,

Sec'y. Warren County Medical Society.

THADE DONOHUE, MEMPHIS.

Dr. Thade Donohue, 73 years old, born in Ireland, January 1, 1836; died July 25, 1909. Served throughout the Civil War as a Major in the line in the Federal Army; graduate of Louisville Medical College, 1866; married Miss Anne Chase at Memphis, September 25th, 1866; survived by widow, Mrs. A. C. Donohue, and one son, William, and two daughters, Mary and Anne.

Yours respectfully,

B. N. DUNAVANT, *Secretary,*
Memphis and Shelby County Medical Society.

DR. GEO. N. BAZEMORE, CLEVELAND.

Dr. George M. Bazemore, the oldest practitioner of medicine in Bradley County, died suddenly at his home in this city at a few minutes before eight Thursday night. Death was due to heart failure.

Dr. Bazemore had practiced medicine in Bradley County for more than 40 years. He was born near Fort Valley, Ga., Feb. 19, 1834, and was, therefore, 76 years old last February. His early years were spent on the farm and he had only the meager educational advantages those early days afforded. While still residing in Georgia, Dr. Bazemore was married twice.

In 1868 he removed to Tennessee and located in Charleston, where he practiced medicine until 1883.

From 1883 to 1885 Dr. Bazemore practiced medicine in Chattanooga and for the last 25 years in Cleveland. For the same period he was chairman of the city board of health and local surgeon of the Southern Railway.

While yet a citizen of Georgia, Dr. Bazemore became a member of the Primitive Baptists, but since coming to Tennessee had been a member of the Cumberland Presbyterian Church. He was a member of the Odd Fellows, Masons and Knights of Pythias, having been chancellor commander of the latter.

Deceased served many years as president of the Bradley County Medical Association and

was prominent in the Tennessee State Medical Association. He stood high among the physicians of Tennessee, Georgia and Alabama, and was frequently called to Atlanta, Birmingham, Nashville, Chattanooga and other cities of the South for consultation with leading physicians in those places.

DR. M. C. DUNCAN, MADISONVILLE.

Dr. Duncan was born Nov. 24th, 1846. Was reared on a farm near Blairsville, Ga.

Received his literary education in the public schools in Blairsville.

Studied medicine with Dr. J. W. Duncan (his brother) in the years 1869-70.

Attended the Atlanta Medical College and graduated in 1873.

Took a post-graduate course at the Bellevue Hospital Medical College in New York in 1881.

Practiced medicine in Philadelphia, Tenn., one year, two years in Atlanta, Ga., and the remaining thirty-five years in Madisonville, Tenn.

Died Jan. 18th, 1908.

B. W. BATWELL,

S. N. PENLAND,

G. O. BICKNELL.

Committee.

Dr. Woodson read the report of the Nominating Committee, as follows:

For President—Dr. J. A. Witherspoon, Nashville; Dr. S. S. Crockett, Nashville; Dr. R. J. McFall, Cumberland City.

Vice-Presidents—East Tennessee, Dr. J. J. Waller, Oliver Springs; Middle Tennessee, Dr. R. A. Barr, Nashville; West Tennessee, Dr. Eugene Rosamond, Memphis.

Secretary-Editor—Dr. George H. Price, Nashville.

For Trustee—Dr. E. C. Ellett, Memphis.

Delegates to A. M. A.—Dr. S. S. Crockett, Nashville; Alternate, Dr. L. M. Woodson, Gallatin; Dr. S. R. Miller, Knoxville; Alternate, B. D. Bosworth, Knoxville.

Councillors—First District, Dr. C. P. Fox, Greeneville; Third District, Dr. A. F. Richards, Sparta; Fifth District, Dr.

W. G. Frierson, Shelbyville; Seventh District, Dr. C. A. Abernathy, Pulaski; Ninth District, Dr. O. Dulaney, Dyersburg.

The President appointed as tellers Drs. Malone and Savage.

There were twenty-nine votes cast for President, and of this number Dr. J. A. Witherspoon received 15, and Dr. S. S. Crockett 14.

On motion of Dr. Cooke, the election of Dr. Witherspoon was made unanimous as President of the Society for the ensuing year, and his election was so declared.

The following were the duly elected Vice-Presidents: East Tennessee, Dr. J. J. Waller, Oliver Springs; West Tennessee, Dr. J. H. E. Rosamond, Memphis; Middle Tennessee, Dr. Richard A. Barr, Nashville.

Secretary-Editor, Dr. George H. Price, Nashville.

After Dr. Price was declared re-elected Secretary-Editor, there were cries of speech! speech! Dr. Price said:

Gentlemen of the House of Delegates:

I wish to thank you for this renewed expression of confidence, which, I am sure, is not so much on account of any ability which I have displayed in the management of the affairs entrusted to my care during the past year, as it is that I believe and feel and know that this expression of confidence comes more from the fact that you believe I have tried to the best of my ability to perform the duties which have devolved upon me.

It would seem as if I were complaining if I should detail to this House of Delegates the great amount of work which is incident to this particular office. No man who has not tried it; no one who has not undertaken to do it; no one who has not devoted time, day and night, to the work devolving upon him in this office, can fully appreciate what it means. I had made up my mind, gentlemen, that I would not accept the office again. I had consulted with some of my warm, personal friends in regard to the matter, and I told them that someone should be selected for this office and

trust who was better suited than I for this particular work, and if such was the opinion of the House of Delegates I would be glad to surrender this duty and to let the work be carried on by someone better suited for its accomplishment. I cannot undertake the work unless I am provided with more help than I have had during the past year. The work is such that it is a constant care and source of anxiety to the man who fills the position, and no one appreciates that more than the man who has undertaken it.

The Tennessee State Medical Association as a whole has given to me that cordial coöperation, so far as the individual members are concerned, that any man could expect. They have not complained except in a few instances; but I must say that a large amount of work which falls upon this branch of your undertaking could be greatly relieved and very much lessened if the county secretaries throughout the state and each individual member, in every county organization, would give his earnest, persistent and constant devotion to the detail that falls within his peculiar province, and thus aid in this undertaking. The Tennessee State Medical Association has within its membership the very best material that the State of Tennessee affords, and it behooves the individual member of this association to come to the support of every officer in the organization with all of his energy, with all of his soul, and with all that is within him to push forward this enterprise and make it a success, so far as he is personally concerned, and for the best interests of every other man in the organization. And in assuming the duties and responsibilities which devolve upon your Secretary and Editor for another year, I do so with the distinct and clear understanding on the part of the House of Delegates, the representative body of this organization, that such help as may be necessary will be furnished through the Board of Trustees of the JOURNAL, to the Editor and Secretary, in order that the work which lies before me may be accomplished to the very best possible advantage and for the greatest interest and satisfaction of every member of this association. (Applause.)

I have been a member of this association practically since the day I entered upon the practice of medicine, because of the influence of a man whose whole heart and soul has been put in the work of this great organization, the Tennessee State Medical Association. I had learned from the very inception of my

that it was the duty of every man, be he official or one within the ranks, that so far as within entering upon the work of this association, him lies, to give the very best of what he had, the very best of what he could give, the very best of what he could do or accomplish, in the carrying out of those purposes, ideals and designs which are fundamental to the success of any great organization. I have always entertained these ideas, and it has been my purpose in the past, and it shall be my purpose in the future, to steadfastly maintain and to continue to uphold the best interests of the Tennessee State Medical Association and the great body with which it affiliates, the American Medical Association.

Again thanking you, gentlemen, for this expression of confidence, I am yours. (Loud applause.)

Dr. Savage then moved that the remainder of the report of the Nominating Committee be adopted as the sentiment of the House of Delegates.

This motion was seconded by several and carried, and the officers mentioned declared duly elected. These officers are:

Trustee—Dr. E. C. Ellett, Memphis.

Delegates to the A. M. A. for 1910-11—Dr. S. S. Crockett, Nashville; Alternate, Dr. L. M. Woodson, Gallatin; Dr. S. R. Miller, Knoxville; Alternate, Dr. B. D. Bosworth, Knoxville.

Councilors for 1911-12—First District, Dr. C. P. Fox, Greeneville; Third District, Dr. A. F. Richards, Sparta; Fifth District, Dr. W. G. Frierson, Shelbyville; Seventh District, Dr. C. A. Abernathy, Pulaski; Ninth District, Dr. O. Dulaney, Dyersburg.

Dr. Gillespie offered the following resolution:

Resolved, That the House of Delegates instruct the trustees to employ an assistant to the Secretary and Editor, to aid him in his work, and that the trustees and Secretary select that help and fix the compensation.

The resolution was seconded by Dr. Bosworth, and carried.

Dr. Hawkins offered the following:

Resolved, That the Secretary of each county medical society be requested to have read at some suitable meeting the papers composing the symposium on hookworm disease, to the end that this subject may be given the widest publicity before the profession.

Seconded and carried.

Dr. J. W. Sanford moved that a vote of thanks be tendered to the Secretary, Dr. Price, for the able and efficient manner in which he discharged his duties last year.

Seconded and carried unanimously by rising vote.

Dr. Savage moved that the thanks of the House of Delegates be extended to the physicians of Memphis for their splendid arrangements for this meeting and for their entertainment.

Seconded by several and carried.

Dr. Ellett moved that a vote of thanks be extended to the retiring Presi-

dent, Dr. Crook, for the able, prompt and impartial manner in which he had presided over all the deliberations.

Seconded and carried unanimously by rising vote.

On motion of Dr. Sanford, a vote of thanks was extended to the Treasurer, Dr. Bilbro, for his very efficient services.

DR. SAVAGE: We have with us a man who is very essential to a meeting of the Tennessee State Medical Association. Without him I do not see how we could get along, and I therefore move that a vote of thanks be extended to our friend, Whitford, the Official Stenographer, for the skillful and graceful manner in which he has reported our proceedings.

Seconded and carried.

There being no further business to come before the meeting, on motion, the House of Delegates then adjourned *sine die*.

GEORGE H. PRICE,
Secretary.

Journal Tennessee State Medical Association

Published Monthly by the Tennessee State Medical Association.

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The Tennessee State Medical Association is not responsible for any statements or opinions of individuals published in this Journal.

THE MEMPHIS MEETING.

THE Association held its regular annual meeting in the city of Memphis, April 12th to 14th last. Viewed from the standpoint of attendance, the meeting did not come up to the expectations of those who were present, there having been registered a total of 184 members. In addition to this number of members, there were also present visitors from Alabama, Mississippi and Arkansas; Arkansas being represented by a special fraternal delegate in the person of Dr. G. A. Warren, of Black Rock, Ark., who, though arriving late, was none the less welcome. In addition to special delegates, we had with us several distinguished gentlemen, as follows: Dr. Chas. W. Stiles, of the Marine Hospital Service, who was detailed by that department to be present and take part in the discussion of the hookworm disease. The presence of Dr. Stiles and his presentations of this subject was one of the most interesting features of the meeting, as he was able to present certain features which were of great interest to the general public as well as the members of the Association. We also had with us Dr. Geo. Dock, of Tulane Medical Department, who came at the request of the Association to participate in the hookworm symposium,

and we are greatly indebted to him for his presence and contribution, not only to this particular feature of the program, but also for his discussion of other papers during his presence with us. Further, we had the pleasure of having with us Dr. W. H. Allport, of Chicago, who contributed a most valuable paper upon a most important subject—namely, “Observations on the Diagnosis of Retro-Peritoneal Enlargements.” Dr. Allport also gave us the benefit of his experience, which is wide and varied, in the discussion of other papers. Dr. Bransford Lewis, of St. Louis, was also a guest of the Association and contributed a most interesting paper on “Diagnosis and Treatment of Prostatic Obstruction.” Dr. Lewis’ paper was read in conjunction with several papers, appearing upon this same subject, which were presented by members of this Association, and the discussion growing out of these papers was most interesting and instructive. Our thanks are due to each of these gentlemen and are herewith extended. The program, as a whole, was comprehensive and the papers read were freely discussed, to the great advantage and benefit of those who were present. Quite a number of the papers listed on the

permanent program were not presented by reason of the fact that some of those living outside of Memphis were unable to be present, while a considerable proportion of those which were to be contributed by members of the profession, living in the city of Memphis, were not read when called. This was unfortunate, for we had hoped that these papers would be presented, especially so since the meeting was in that city. However, this will be partially overcome, since, by motion, papers appearing on the program were read by title and those who failed to read their papers will have an opportunity to present them through *THE JOURNAL*. A fact to which we would call attention and which is of considerable in-

terest to the members living in extreme sections of the State is, that quite a number of the members, purchasing tickets from stations in West Tennessee to Memphis, failed to call for certificates, and while there were about 125 present who came by rail, quite a number of these made no effort to secure these certificates. This reduced the number of certificates to less than 100, the necessary number to secure the rate, consequently the special return rate could not be granted to any of those who had paid for tickets to the meeting. While this is a matter of but little consequence to some, yet it is one of considerable importance to others, and this oversight should be guarded against in the future.

A. M. A. ST. LOUIS MEETING, JUNE 7th, 8th, 9th, 10th, 11th.

IN the St. Louis number of *The Journal of the A. M. A.*, May 7th, is given a detailed announcement of arrangements for the sixty-first annual session of this Association. This is the fourth time in the history of this organization that it has met at St. Louis, the last session being held there in 1886. The medical profession of St. Louis is preparing to entertain 15,000 visitors during this meeting. The city of St. Louis is one of the most interesting cities of the Middle West and should afford ample opportunity for every visitor to enjoy himself to the fullest. Ample arrangements have been made for the care of every member of the Association. The Registration Bureau, Post-office, Commercial and Scientific Exhibits will be located at the Coliseum, at the corner of Washington and Jefferson Avenues, easily accessible from all parts of the city. The various sections will be provided for in halls located on and near to Grand Avenue. The President's reception will be held in the First Regiment Armory

Building, at the corner of Grand and Manchester Avenues. A guide-book of St. Louis, full of special information concerning the city and its attractions, will be given every member of the Association. St. Louis is a medical center, and there will be much of interest found in the medical colleges and hospitals during this convention. The Preliminary Program of the various sections indicates that each will afford ample material from the best of authors to demand the attention of every physician in attendance. A series of clinics have been arranged by Washington University Medical School, running from May 23rd to June 4th, and from June 13th to June 18th. St. Louis University is also arranging for special clinics for the benefit of physicians attending this meeting, giving about the same dates as above given. No fees will be charged to visiting physicians, and the clinics are so arranged as to not interfere with the business of the Association.

As usual, the various alumni reunions

will be held during this meeting. Special arrangements have been made by the various railroads for reduced rates to St. Louis for this convention, and circulars of information will be mailed by the railroads interested and all offices will be notified. From some of the prominent centers of Tennessee special arrangements will be made to provide physicians with sleeping-car arrangements to the meeting.

Tennessee should be largely represented, and it is expected that the attendance will show representatives from every section of the State. The annual sessions of the A. M. A. are a liberal education to those who attend and the physicians who can only get away once a year from the duties and responsibilities of professional life should avail themselves of this opportunity.

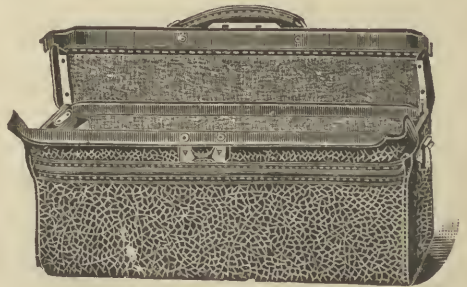
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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COUNTY SOCIETIES.

To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373. Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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SYMPOSIUM ON HOOKWORM DISEASE.

Discovery, Distribution and Consequences of Hookworm Disease.

CHARLES W. STILES, M.D., U.S.P.H., M.H.S., WASHINGTON, D. C.

NORTH EUROPE has diseases of its own. Africa has its diseases. The Southern States have the diseases of both Europe and Africa for the simple reason that we have two races, the white and the black. Here in our Southern States we are presented with a new picture which is different from the medical picture in any other part of the Union. No matter what question may come up with us in the South, we come back to the fundamental proposition, namely, that 34% of our population belongs to the African race. We cannot escape that fact in discussing politics, nor can we escape it in discussing medicine, and while we may take a certain position toward certain questions in any part of the country, when we come to the South we find conditions are modified for the simple reason that we are breaking nature's laws in attempting to have two different species of animals, the white man and the black man, living side by side. There is no department of human life where the effects of our breaking this law of nature stands out so prominently as in connection with disease. We are a mixture, medically speaking, of Europe and Africa, and we find diseases here which are not found in other parts of the United States. There is only one other part of the country which we can compare with the Southern States in this re-

spect, and that is the Pacific slope, where the white and yellow man are coming together, and where the diseases of the white race are gradually being mingled with the diseases of the yellow race. Three maladies have been introduced into the Pacific slope from Asia, and I am daily watching for a fourth. At least two serious maladies have been introduced by the negro from Africa, and the negro is forming a reservoir for another disease here, probably for three other tropical diseases.

I invite your attention this evening to some of the complex medical conditions which result from this peculiar circumstance of having two different races of men. The white man has come here with the common disease known as tuberculosis—a disease that was not frequently found in the slaves. It has been transmitted, though, to the negro. The negro is now trying to take care of himself, but the disease is spread among the negroes, and they are now dying at a rate from this one disease three times as rapidly as white men. I mean by that, the death rate from tuberculosis in the negro is three times as great as the death rate from tuberculosis in the white man. It is very unfortunate that the negro has come in contact with the white man's disease. The white man has his trouble.

He has contracted two of his serious diseases directly from the negro. (Dr. Stiles then showed numerous slides and pointed out the prevalence of hookworm disease in various sections of the South.)

I wish to repeat what I have said on previous occasions, that we are the dirti-

est civilized nation on the face of the earth. Our sanitation is half a century behind the times. What shall we do? In the first place, let us clean up. Build sanitary privies. Have medical inspection of schools, of factories and farms, and bring the afflicted under treatment; but above all, improve the sanitation.

SYMPTOMATOLOGY OF HOOKWORM DISEASE.

LOUIS LEROY, M.D., MEMPHIS.

As we have all degrees of infection from a few worms to several thousand, and as the ages and general resistance of our patients vary in all degrees, it would be expected that the symptoms of hookworm disease would vary accordingly. We find, then, cases showing no symptoms whatever, others in which dissolution is imminent, and all gradations between these two extremes.

A large percentage of the cases occur in children, as these are more apt to run barefoot and have much more opportunity of becoming infected. In them, as well as in adults, the color of the skin is somewhat characteristic; it has been described as whitish, lemon color, yellow and parchment color; probably the latter term will describe the appearance the best. The skin is also generally dry and patients perspire with difficulty if at all. There is also a dryness and thickness of the nails; a dryness, brittleness, thinness and absence of luster to the hair. The skin of the nose and ears have, usually, a semi-translucent waxy appearance which is fairly characteristic. The scapulae are prominent, protruding backward and outward, and permitting the shoulders to droop. There is, also, always a marked retardation in physical development, so that patients of twelve or fourteen years may appear not more than six or seven, and others of

twenty or so may look to be not more than fourteen or fifteen. A rather striking element of this lack of development will be found in the absence of hair in the axillary and pubic regions. The mental development is also retarded and keeps pace about with the physical appearance. In addition to this there is a lassitude and inability to concentrate the mind for any length of time upon any subject, and there is frequently a perceptible interval which will elapse between the asking of a question and the answering of it by the patient; as if it took several seconds for the question to be comprehended. As would be expected, children of this kind are almost always very much behind in every type of school work.

There is usually a dimness of vision and retinal hemorrhages are occasionally found. There is an inability to continue long with close work, as the muscles of accommodation are not able to maintain a normal tension for any length of time. If the patient is placed facing a bright light, the pupils will momentarily contract to compensate for the increased illumination, but if we keep him in that position for awhile, we will see the pupils dilate again, as the muscles become exhausted. Shortness of breath upon exertion is marked, and the hemic muscle over the base of the heart and large ves-

sels may be heard in advanced cases. The anemia varies with the severity of the cases, and may be of the most extreme type, in which cases, the whites of the eyes will be blanched, or muddy white. The asthenia is severe and they are unable to sustain any muscular effort for more than a second or two, which point can be easily elicited by requesting the patient to shake hands and grip your hand as hard as he can, when, after first spasmodic contraction, the grip will be felt to progressively diminish, until not more than a few ounces of pressure seem to be exerted.

One of the early symptoms of the disease is abdominal pain, which is more or less constant, and may be relieved by food. A point of tenderness on pressure is usually found about the eleventh intercostal space, both in the front and in the back; and a peculiarity which has been noted by Styles, is, that the posterior is generally sensitive in expiration and the anterior one in inspiration. There is usually some dilation of the stomach, which may be extreme, giving the sufferer the so-

called "pot-belly" appearance. There is frequently little emaciation considering the severity of the affection. Indigestion and dyspeptic symptoms are common and the appetite is variable. The eating of unusual and bizarre substances is the rule rather than the exception—such materials as dirt, clay, chalk, plaster, hair, cotton, wood and wool are frequently eaten, and other cases have a craving for sours, sweets and raw vegetables.

The mucous membranes are pale and the tongue is apt to be a little irregular, especially at the edges. Small, triangular dark patches on the dorsum of the tongue have been described in some instances. Puffiness of the face and swelling of the ankles may occur early. Menstruation develops very late, sometimes not for twenty years; in the girls, amenorrhœa is the usual rule. In the boys the sexual functions are delayed to the same degree, and in adults a most profound exhaustion usually follows coitus.

Altogether, the symptoms are such as would be indicated in profound anemia, in addition to a great deal of toxemia.

THE PATHOLOGY OF HOOKWORM DISEASE.

NEWTON EVANS, M.D., NASHVILLE.

In undertaking a study of the pathology of uncinariasis it becomes evident that there are certain rather decided differences between the findings in those cases of death from the *ankylostoma duodenale* and those from *uncinaria americana*, and for the most part the lesions in *ankylostomiasis* show the greater degree of severity.

Some of the more prominent points of difference distinguishing the American worm are its small size, different arrangement of oral appendages, the head being smaller and lacking the four distinct

sharp toothlike appendages, the genital opening farther forward in the female, and a different arrangement of the lobes of the male caudal appendage.

It has been shown, however, that the *Ankylostoma*, or European type, is widely distributed in this continent, particularly in Mexico and some of the islands of the West Indies, and its presence has even been proven in Porto Rico, where there was such a terrific scourge of the hookworm disease and where the great majority of the parasites are of the American type. From the fact that much of the

poorer population in the extreme southwest, and particularly in Southern California, are closely related to the Mexican population, it seems reasonable to suppose that the hookworms which are found in those regions may be of the European type; and it will not surprise me if it should be found that in some districts of the South where the disease occurs in severe type, the parasite is of the European variety.

Whipple has shown by a series of 232 autopsies in Panama, in 31% of which the hookworms were found in the intestines, that both varieties are common in the West Indies and the States of Central and South America, and has further shown the rather remarkable fact that in many of the people of these countries both species are found living together in the same individual.

It seems that in the comparatively few years that the disease has been recognized and studied in America, the number of systematically conducted autopsies has been rather small; at least I have been so impressed in the examination of the literature accessible to me.

BLOOD CHANGES.

As in all the other phases of the disease, we must distinguish carefully between the findings in the severe cases, which often result fatally, on the one hand, and the cases which are accompanied by only very mild symptoms and are difficult to recognize, or have no symptoms at all, except the finding of eggs and worms in the feces and usually increased eosinophiles in the blood, on the other hand.

As conclusively shown by Chamberlain (1) in his investigation of the Southern-bred recruits of the United States Army, a very large proportion of all the rural population in the Southern States must

have had hookworm infection of greater or less severity at some period of their lives. Of 147 men, including both new recruits and those who had been in the army for several years, 64 showed ova of *uncinaria* in the feces. All of these were light, not one showing symptoms which could lead to the diagnosis except the presence of the parasite and the presence of eosinophilis in a large percentage of the cases.

Hemoglobin.—In the light cases, without apparent symptoms, the amount of hemoglobin is not greatly affected, the hemoglobin averaging from 90 to 95% of normal. In the severest cases the hemoglobin shows profound changes, in thousands of cases averaging from 40 to 50% and running as low as 8%.

Red Cell Count.—This does not vary greatly from the normal in the lighter cases, but in the severe cases shows the characteristics of severe secondary anemia in the majority of instances, in some cases being as low as 700,000 in the cubic mm.

Hemoglobin Index.—In the severe cases Ashford and King (Porto Rico) give an average index of .5, showing the type of secondary anemia. However, in 3 out of 19 very severe cases, Ashford records the color index as being 1. or above, corresponding to the type of primary pernicious anemia.

Leucocyte Count.—Leucocytosis does not seem to be a characteristic symptom of this disease, and the average of the observations indicate that the number of white cells do not vary greatly from normal. However, it is important to notice that often in the most severe cases there is a decided decrease in the number of leucocytes (leucopenia).

Eosinophilia.—In the differential count of white cells apparently the only important abnormality so far noted is the almost constant increase in the number of

eosinophilic cells. Yet this symptom is not constant; Chamberlain's counts in Southern-bred United States soldiers showing a very large proportion of cases with eosinophilia, while Bass reports only a small percentage of his mild cases as having any great increase of these cells. In five cases in which I have made counts, in children with pellagra, as well as uncinariasis, the eosinophiles ranged from 9 to 14% (normal, about 2 or 3%); and after the administration of one course of thymol, the counts were from 14 to 34%. In the severe cases this increase of eosinophiles is quite a constant finding, except in the worst types.

Practically all observers are agreed that the degree of eosinophilia is *not* an index of the severity or amount of infection. A careful analysis of the figures in the 64 mild cases reported by Chamberlain, using the number of ova found upon microscopic examination and the number of worms recovered after treatment as indices of the severity of infection, admirably demonstrate this point.

Ashford and King conclude that eosinophilia is very liable to be absent in the more serious cases. They give their conclusions in the following words:

"Eosinophilia is the chief feature of importance, but in the more serious cases it is liable to be absent. In 1904 we called especial attention to our belief that eosinophilia was of great prognostic importance and have noticed that some German and Spanish writers have expressed the same view. Very chronic cases, of severe type, poor resisting power, and lack of blood regeneration, rarely show eosinophilia—or, if at all, only to a slight degree. A rise in eosinophilia is of great prognostic significance, and their fall, with lack of improvement in symptoms, is not a good omen. In general, good resistance to the hypothetical toxin of uncinaria is expressed by eosinophilia."

Alvarez (9), in Mexico, where all the cases are said to be infections with the European variety, calls attention to the fact that there is usually a decided increase in eosinophiles shortly after successful treatment with anthelmintics. The leukocyte counts in my own cases show a decided increase in eosinophiles a few days after the administration of thymol.

Several writers emphasize the point of great resemblance between the blood findings in the severe types of uncinariasis and true primary pernicious anæmia. In the case of Capps, which resulted fatally, as the severity of the symptoms increased, the blood showed at first typical secondary anæmia, which gradually changed to a picture closely resembling that of pernicious anæmia. However, Ashford and King gave the average hemoglobin index in the severe cases as only .5; but 3 out of 19 of Ashford's blood counts gave an index of 1. or above.

One of the most remarkable features of the hookworm disease is the complete lack of agreement between the severity of symptoms and lesions, including the blood changes, and the number of worms found in the intestine. This is shown most graphically by Sandwith's (8) post mortem findings (all in cases of ankylostomiasis) where, in 26 fatal cases, the maximum number of worms found in autopsy was 863. In 6 out of 18 of these fatal cases (all of which had received no treatment to dislodge the worm) there were less than 10 worms in each case, and in two cases there was only 1 worm in each. These facts lead to the almost inevitable conclusion that the cause of the anæmia and its resultant symptoms is not the direct loss of blood, but is rather due to a toxæmia caused by some poison generated by the parasite to which the organism in the cases where the patients

die with only a few worms present, must become unusually susceptible.

The observers who have seen large numbers of the severe cases and of those harboring great numbers of the parasite conclude that there is little relation between the number of worms and the severity of symptoms, and are agreed that the hookworm does not cause its symptoms by its blood-sucking propensities, but by some as yet unknown toxin.

This view is strongly combatted by certain observers, notably Whipple, in Panama.

POST MORTEM FINDINGS.

I have studied reports of 17 complete autopsies upon American cases: 12 in Porto Rico, 4 from island of Grenada, 1 from Panama. These can be compared with the findings of Sandwich in 26 autopsies in cases of ankylostomiasis.

General.—There is practically always edema present with marked dropsy of the lower extremities, some abdominal ascites, serous effusions in other serous cavities and considerable general anasarca. The bodies usually appear fairly well nourished, and in the adult cases quite well developed muscularly, but the intense pallor of the skin and other tissues is invariably marked. The subcutaneous and other fat of the body is well preserved, of normal amount and of a light yellow color. This comparative absence of emaciation and preservation of normal amount of fat is in decided contrast to the findings of Sandwich (8) in the ankylostoma cases, in which the muscles were wasted and there was usually a decided absence of fat. In his report the average weight of 100 severe cases was 117.5 pounds, where normally the weight should have been 135 pounds. In this connection the observations of Chamberlain (1) upon soldiers with light infections is of interest. In comparing the weights of

Northern and Southern soldiers, there is a difference in favor of the Northern recruits, also there is a difference in favor of the non-infected Southern recruits over the infected Southern recruits.

Bass (13), in a later report of examination of students at Tulane University, calls attention to the important fact that there is a definite inferiority in both weight ($8\frac{1}{2}$ pounds) and stature (2 inches) in students who have mild infection with uncinaria as compared with non-infected students. It is to be remembered that in these mild cases there are no clinical symptoms which would lead to the detection of the disease except by the examination of the feces. Our students, 41 recorded: 14 with, weight 158, height $5.8\frac{1}{2}$; 27 without, weight 153, height 5.9.

The muscular tissue, according to Ashford and King, is brownish gray in color, friable and often atrophied and microscopically the muscle fibers are fragmented and protoplasm reduced in amount.

Gastro-Intestinal Tract.—The habitation of the worms is usually confined to the upper part of the jejunum and a certain number are found in the duodenum. In a few cases they have been found in the ileum, but never in the colon, and Ashford and King describe their occurrence in the stomach in several cases, both attached to the mucous membrane and unattached. In practically all cases there is a mucous gastritis, sometimes extreme. Ashford and King report two cases and Leonard two cases of gastric dilatation. The duodenum, and particularly the jejunum, are the seat of a severe catarrhal process, which also affects to a degree the other portions of the intestines. There is a large amount of mucous in the intestinal canal in which the worms are imbedded and which is often blood stained in places. The lesions of the intestines are confined to the mucosa, and there is often degeneration and

atrophy of the intestinal and gastric mucous membrane.

At the point of attachment of the worms there is a tiny erosion, superficial, not deep, and about one-half millimeter in diameter. This erosion is usually not surrounded by any discoloration and is difficult to locate with the naked eye. Leonard says that the mucous membrane showed minute hemorrhagic spots, but a majority of his cases were of the ankylostoma type. These minute superficial erosions are in marked contrast to the lesions described by Sandwich in the cases of ankylostomiasis, where there are numerous petechial hemorrhages marking the point of attachment of the worm and some of the worms are found embedded for half the length of their bodies in the thickened mucosa, and those so attached are surrounded by much bloody mucus.

It seems evident that there are very marked differences between the intestinal lesions in the Ankylostoma infections and the Uncinaria cases, but Whipple has presented in his Panama cases the interesting spectacle of the two varieties infesting the same gut, but it is also evident from his detailed tables that the lesions produced by the Ankylostoma were of great severity, particularly with reference to the ecchymoses and hemorrhages. He describes the occurrence of little hemorrhagic cysts in the mucosa containing living parasites surrounded by a collection of fluid blood. Whipple gives excellent descriptions of the histological changes which affect large areas of the small intestine, involving the mucosa and submucosa and consisting of the phenomena of chronic inflammatory changes as shown by fibrous thickening and the presence of a cellular infiltration, both mononuclear and polynuclear, and among them a very large proportion of eosinophilic cells. He notes a remarkable difference in the severity of the lesions depending upon

the condition of the patient, the more anæmic and emaciated cases not showing hemorrhagic spots and the milder cases reacting with large areas of ecchymosis to the bites.

Ashford and King express the opinion that the food of the uncinaria is the epithelial cells of the mucosa and that it is not a bloodsucker. In only 5 cases in 10,000 was there sufficient blood in the feces to be discovered by the microscope. In examining 80,000 worms, none containing blood was seen. Leonard only occasionally has seen the worms blood-red in color. In Colbert's 21,000 cases (Porto Rico), 12 showed blood microscopically visible in the feces, and in 23 it was visible by the microscope. However, by the chemical tests for occult blood, probably a much larger per cent will be positive. McNabb, at Knoxville, says that in every case he finds blood in the stools by the Guaiac or the Benzidine test. In 17 of our cases I have made tests for occult blood, 12 of which gave positive reaction with the Benzidine test. These were all light or moderate cases. Stiles says that 80% of the severe and medium severe cases will react to his blotting paper test for blood.

The largest number of worms removed by anthelmintic in any one case, as reported (Colbert), is 4,872. The proportion of males to females of the parasites, as found at autopsy by Capps, was one male to four females. Sandwich, in 50 cases, gives the proportion in the ankylostoma infection as 56% males and 44% females. Other observations recently reported are practically in accord with the finding of Capps that the proportion is about 1 male to 4 females in the American cases.

Liver.—The most pronounced change in the liver is *fatty degeneration*. In Capps' case the liver weighed 1600 grams, was mottled yellow in color. The cut sur-

face was mottled yellow, red and cut with decreased resistance.

Ashford and King give the color as light brownish-yellow or very light yellow; it is soft, friable and greasy to the feel. Microscopically, fatty degeneration was always present and in the milder cases more pronounced in the outer third of the lobule.

Spleen.—Ashford and King state that the changes in the spleen are definite and characteristic. It is decreased in size, soft and has a wrinkled capsule. Microscopically the 8 cases examined invariably showed a decided paucity of lymphoid elements, and even a decrease in the size of the lymphoid cells. The Malpighian corpuscles were greatly reduced in size and in cellular content. The increase of connective tissue was only relative and apparent.

Capps reported a large spleen with interstitial hyperplasia. This was possibly malarial in origin.

Leonard says the spleen was normal in two of his four cases and enlarged in two, the enlargement probably being due to malaria.

Kidneys.—Ashford and King report that practically all fatal cases show a chronic parenchymatous or diffuse non-indurative nephritis. They are invariably very pale and usually slightly enlarged. Microscopically the changes were most marked in the convoluted tubules, where there was fatty degeneration and desquamation of epithelium. There were exudates of serum and blood into the interstitial tissue and Bowman's capsules, and bloody and epithelial casts in the tubules.

Their findings in the urine of the severe cases correspond well with these post mortem lesions; 20 in 24 cases had small trace of albumen before any anthelmintic treatment; 18 in the 24 had casts, hyaline and granular, no bloody casts and few epithelial.

Lungs.—The only constant changes

seen in the lungs are the extreme palor as in the other organs, and in almost all cases a pulmonary edema, as shown by the dripping of fluid from the cut surface. Many cases show signs of passive congestion, probably due to incompetency of the mitral valve. Every case is reported to have had a greater or less degree of pleuritic effusion, clear and yellow in color.

Heart.—Sandwith says there was a cardiac hypertrophy in 10 of his 26 cases. The American observers also report cardiac hypertrophy in several cases and dilatation dependent upon fatty degeneration in many of the cases. The muscle was frequently flabby and a functional incompetency of the valves was present.

Ashford and King say there is frequently an increase in the pericardial fat. In all cases a considerable amount of serous effusion is present in the pericardial cavity. Microscopically they report in two or three cases distinct brown atrophy and in two cases extensive fatty degeneration.

Brain.—About the only constant lesions described in the brain are intense anæmia and an effusion into the ventricles of a clear, pale, yellow fluid.

OSSEOUS DEVELOPMENT.

Bone Marrow.—The marrow of the shafts of the long bones usually has undergone changes somewhat similar to those in pernicious anaemia, although Capps in the description of his case says that the marrow of the femur was extremely yellow and fatty. "At two points it had a reddish color, but was even here practically all fat."

Ashford and King examined the shaft of the femur in two cases. The marrow was grayish-red and very soft. Microscopically it was similar in appearance to pernicious anaemia (which probably means it contained an abundance of erythroblasts) and also contained numerous

groups of eosinophilic cells mostly myelocytes, as well as large numbers of myeloplexes.

Hemolymph Glands.—Ashford and King lay great stress in changes in hemolymph glands. In two cases in which search was made, numerous hemolymph glands of considerably larger size than the normal type were found in the region of the abdominal aorta. Most of these were of the spleno-lymph variety.

GROUND ITCH.

The etiological relationship of the so-called ground itch to uncinariasis can be considered to be proved beyond any reasonable doubt. In 1901 Loose (10) first showed experimentally that the larvæ of *ankylostoma* enter the skin through the hair follicles and penetrate the deeper tissues. This entrance has been repeatedly demonstrated since.

Careful work of numerous observers has shown irrefutably that the larvæ enter the body through the skin and entering the circulating blood pass to the lungs, where they escape into the alveoli and bronchial passages and thus find their way into the throat and then into esophagus, stomach and intestines. It has been held by many, notwithstanding this entrance by the skin is the usual mode of infection, that the worms may enter the body by swallowing or other such means. This question is still unsettled. (Dr. Schnouse's experiment.)

In view of these facts with reference to the manner of infection we understand why the spread of the infection is confined almost entirely to the country districts and does not occur in towns and cities. In my observation of the cases among students, I find that those having the infection are almost invariably

those having lived in the country, and none of the students having lived in towns or cities during childhood harbor the parasite.

All of the descriptions of the symptoms, lesions and sequence of events in ground itch, either accidental or experimental in origin, are in perfect accord, and have been most accurately described by Ashford and King and by Claude Smith.

According to Ashford and King, the exposure of the skin to the larvæ causes the following symptoms:

1. Itching within a very short time.
2. Followed by redness and swelling of part.
3. In two days papules appear.
4. These rapidly change to vesicles, discrete or often confluent, which later usually rupture.
5. Frequently followed by pustules, but in favorable cases pustules do not form.
6. In case pustules do not form the vesicles soon begin to dry up and crusts are formed, and in the milder cases not forming pustules, the lesion completely subsides in a week or two.
7. In the more severe cases, in which the symptoms are probably due to secondary pyogenic infection, extensive and deep ulcers form, which sometimes respond well to treatment, but often are very resistant.

Claude Smith (11) has shown that a toxin may be extracted from the larvæ by alcohol which will produce the itching and other changes of ground itch, but in a milder form.

Colbert (5) reports that in 5,000 cases of *uncinaria* 4,956 gave a typical history of one or more preceding attacks of ground itch.

Ashford and King (6) say that 96% of 12,000 cases gave such history.

HOOKWORM DISSECTION, WITH SPECIAL REFERENCE TO THE NON-OVIPAROUS FEMALE.

WM. LITTERER, A.M., M.D., NASHVILLE.

In every higher animal we recognize certain more or less definite periods of physiological activity, and according to Calkins we roughly divide the span of life into three stages, which are in no way sharply outlined. These we call the stages of youth, adolescence, and old age. Youth, characterized by a high degree of vitality, is the period of rapid cell multiplication and growth; organs are formed and perfected, functions are unimpaired and active, and the body is a perfect living thing. The second period is characterized by functional and sexual maturity; the multiplication of tissue cells is less rapid; the organs strengthen and their functions are more perfectly correlated; growth comes to an end. In the perfected animal it is the period for perpetuation of the race, and in conformity with this great function sexual differentiation is fully established. The third period, old age, brings a marked change, the potential of vitality wanes; degenerations of all kinds appear; and emulative weakness ends natural death. These three periods are all characteristic of all of the higher celled animals, the last period being rarely seen in nature, because in the wild animals a violent death follows the early functional weakening and inability to fight off enemies. (Calkins.)

Do we find the same sequence of physiological changes in the lower many-celled animals, and can we distinguish periods of youth, maturity and old age? Since the fundamental biological laws are much the same, on *a priori* grounds alone we should expect to find the same series of changes in the lower metazoa (many-

celled animal) and likewise in the unicellular animals (protozoa). Of late I have been greatly interested in the study in the development of the *Uncinaria Americana* with special reference to the non-oviparous female, endeavoring to ascertain whether their inability to produce eggs are due to the "old age period" or ascribed to other influences not attributable to senile degeneracy. It is affirmed by Bass that more than 7% of females out of the 247 dissected by him failed to produce ova. He maintains that during the latter third of their lives' existence that they cease to lay eggs. This observation if substantiated is of paramount importance for the reason that individuals may be harboring the worm and still no ova could be discerned in their stools.

The limited amount of work that I have pursued along this line does not correlate with Bass' investigations, as shown from the results, of the examination of specimens obtained from cases coming from the Tennessee Industrial School. At this juncture I wish to express my deep indebtedness to Dr. Thos. Weaver, the physician in charge, for the privilege of studying these cases. Children are brought here from practically every county in the State and are kept under surveillance until they have attained their majority. So far as we could ascertain there is no evidence that the disease has ever been contracted in the institution. Ground itch, dew poison, etc., are unknown among them and the water supply perfectly pure. This offers a fruitful field in research in ascertaining just how long the infection may have persisted in

a given case and likewise in determining the oviparous and non-oviparous females with especial reference as to their ages. The report in detail follows:

Case 1.—Name, L. D.; female; age, 17; admitted March 8, 1899, from Putnam County; eleven years in institution without interruption; two treatments by thymol, on February 15, 1910, and March 18, 1910. Recovered 27 hookworms—22 females and 5 males. All of the females contained many eggs.

Case 2.—Name, M. G.; female; age, 18; admitted from Rutherford County; thymol treatment recovered 19 hookworms—13 females, 6 males. The females were all oviparous.

Case 3.—Name, M. C.; female; age, 9; admitted May 27, 1905, from Overton County. Only 1 hookworm recovered by thymol. This worm was an egg-bearing female.

Case 4.—Name, R. S.; male; age, 18; admitted February 12, 1904, from Pickett County; six years in school. Three courses of thymol given: March 4, 1910; March 11, 1910, and March 17, 1910. Recovered 45 hookworms—36 females and 9 males. All the females contained many eggs except one. This non-oviparous female was of average size, and so far as could be ascertained microscopically was perfectly normal. The vulva was abnormally situated just in front of the lower two-thirds of the body. The two uterine and ovarian tubes were observed to be quite atrophic and very much shorter than normal.

Case 5.—Name, D. C.; male; age, 13; admitted May 13, 1909, from Blount County. Thymol treatment recovered 18 hookworms—13 females and 5 males. All the females oviparous.

Case 6.—Name, F. M.; male; age, 16; admitted July 13, 1909, from Davidson County. Thymol treatment recovered only 1 oviparous female.

Case 7.—Name, W. D.; male; age, 12; admitted January 1, 1910, from Cannon County. Thymol treatment revealed only 1 oviparous female.

Case 8.—Name, F. C.; male; age, 16; admitted February 10, 1910, from Scott County. Thymol treatment recovered 3 oviparous females.

Case 9.—Name, K. B.; female; age, 9; admitted July 1, 1908, from Macon County. Thymol treatment recovered 2 oviparous females and 1 male.

Case 10.—Name, B. J.; male; age, 14; admitted January 25, 1909, from Greene County. Thymol treatment recovered 2 oviparous females and 1 male.

Case 11.—Name, L. M.; female; age, 13; admitted December 28, 1907, from Lawrence County. Thymol treatment recovered 7 oviparous females and 4 males.

In summarizing the above cases it will be seen that 132 worms were recovered and examined—one hundred and one females with thirty-one males. Only one non-oviparous female was observed out of the entire number. The case from which the non-oviparous female was obtained has been in the institution for six years (case 4). We can assume that the worms recovered from this case are over six years of age, since there has been no evidence of infection being contracted while in the institution. Of absorbing interest is case 1, possibly the longest infected case on record. Dr. Stiles (personal communication) related two cases in which the infection lasted about 11 years. Our case has been constantly present at the institution for over eleven years and no outside source of infection was possible.

It is generally conceded that the average infection will last three or four years—the worms dying or becoming dislodged from their firm attachment and are then passed out by the bowel. Two

thymol treatments in case 1 dislodged 27 hookworms—22 females and 5 males. Every female contained enormous numbers of the ova. It is evident from the above case that the worms are more than eleven years old. Notwithstanding their extreme age they appear to be producing a like proportion of eggs as in the prime of life. However this case cannot be taken as a criterion since it may be an exception rather than the rule.

About two years ago I recovered 89 worms from a case giving a history of having had the disease a little more than one year. Recently I examined these worms and found 66 to be females and 23 males. Three of the sixty-six females proved to be non-oviparous. The history of the case follows:

A boy 12 years old had always lived in Massachusetts except for the past year and a half. He had always been healthy and energetic. The family moved from Massachusetts to South Carolina in the early spring of 1907. During the summer the boy went barefooted and contracted ground itch on two different occasions. Several months later he appeared not to be as well as usual and throughout the winter months he exhibited a marked lack of energy, lassitude, and standing very poorly in his classes at school. Anemia was present, but not very marked. In June, 1908, the family moved to Atlanta, and came to Nashville in November, 1908. The case came under my observation several weeks later. His blood examination showed red cells 4,115,000 Hb. 85. Whites

92,000. The differential leucocyte count revealed 17% of eosinophiles. The increase in eosinophiles led me to suspect uncinariasis, so his stools were examined with the result that a great many hookworm ova were found. Thymol was given, which expelled 67 worms, 53 of which were females and 14 males.

One week later another course of thymol was given with the result that 19 worms were obtained, 10 females and 9 males. Two weeks later another course of thymol was given, which expelled 3 females. After this, repeated examinations of the stools failed to show the ova. The case rapidly improved and three months after the last treatment was healthy and robust as he had always been before the infection.

The unique feature in this case was the finding of three non-oviparous females out of 66 worms, which give a history of being less than one and one-half years old. From this case it is evident that comparatively young females may be incapable of egg production.

I am of the opinion that the non-oviparous nature of the female is not entirely due to the "old age period," but is, in all probability caused by some defects in their development, or occasioned by peculiarity in a given strain. However, definite conclusions are not warranted as evidenced by the paucity of the material at hand. Further observations along this line will be forthcoming by the writer in the near future.

THE CLINICAL SIGNIFICANCE OF SILENT FLUIDS IN THE THORACIC CAVITY. ✓

FRANK A. JONES, M.D., MEMPHIS.

THE term "silent fluids" has been selected to denote the accumulation of large quantities of transudates and exudates into the thoracic cavity without their giving rise to symptoms.

During twelve years' experience at a large out-clinic, together with seven years' service in hospital work, the author has been forcibly impressed with the fact that these fluids are frequently not recognized, especially so where critical physical examination has not been made of the chest.

These silent fluids may be serous, sero-fibrinous, purulent or hemorrhagic. They may come on acutely or chronically.

They are most frequently complications and sequellæ of acute or chronic renal lesions, or of pulmonary and abdominal tuberculosis. In out-clinic service syphilis is often complicated with the tuberculous process.

Cardiac lesions of whatever nature giving rise to failing compensation in the production of hydro-thorax, in the author's experience, are always active and the physical findings are distinctive and typical.

In tuberculous peritonitis with effusion, where the process has not been active in the pulmonary tree, I have found in most instances a bilateral plenisy with effusion latent, in nature upon a physical examination of the chest.

In these cases there are no circulatory nor respiratory disturbances that would direct your attention to its presence. The patient has neither dyspnoea nor cyanosis nor cough, nor no bulging of intercostal space, nor fixation of the chest wall. The following case is illustrative of these types

of tuberculous peritonitis which are constantly coming under my observation.

A colored female, married, age 30, was admitted in October, 1909, to Dr. Battle Malone's ward in City Hospital, complaining of marked swelling of the abdomen. She stated that she felt no inconvenience with reference to her general health. Her history was negative as to syphilis, pneumonia, gall bladder trouble, inflammatory rheumatism or any other infectious disease.

Through Dr. Malone's courtesy, before submitting her to a laparotomy, she was referred to me for physical examination before my class.

The only previous history that I could elicit from her was that she had had a slight diarrhoea for a few weeks prior to her noticing the abdominal swelling. Her pulse and temperature were normal; blood and urine negative. There was no swelling of lower extremities; there was no dyspnoea or cough; general nutrition was good; physical examination of the abdomen indicated a large accumulation of fluid in the peritoneal cavity.

Upon a physical examination of chest, there was no perceptible displacement of apex beat of heart; no fixation of chest; no bulging of the intercostal spaces.

On palpation there was absence of vocal fremitus over the greater portion of both lungs anteriorly and posteriorly. On auscultation there was marked tubular breathing (Bacelli's sign) over posterior aspect of both lungs.

On percussion, a dead flat note over both lungs—anteriorly, posteriorly and lateral.

Aspiration revealed straw-colored fluid in the abdominal and both pleural cavities.

Her history with reference to menstrual disorders was such as to suspect tuberculous salpingitis, together with tuberculous peritonitis. From the general findings, the clinical diagnosis would seem to be tuberculous serositis.

Laparotomy by Dr. Malone showed a pronounced tuberculous peritonitis. A large quantity of fluid was evacuated. After laparotomy, the fluid rapidly reaccumulated.

Under X-ray treatment by Dr. Lawrence, she made rapid improvement. The abdomen diminished in size six inches under treatment.

At the time of laparotomy she was voiding small quantities of urine. Under the X-ray treatment the excretion of urine was abundant. As is the case of nearly all colored clinics, it is a difficult matter to keep trace of them. Dr. Lawrence lost sight of her, but she steadily improved under his care.

With reference to these silent fluids transudates in nature, coming on acutely in the course of acute latent parenchymatous nephritis, sufficient has not been said by our best authorities.

In my ward service at the City Hospital, during the last year, I have observed six cases of marked bilateral hydrothorax complicating acute nephritis, in which there was no circulatory or respiratory disturbances or any evidence of dropsy elsewhere.

All of them were negro men varying in age from 20 to 45. All were attacked acutely with nausea, vomiting and headache. All were addicted to excessive use of alcohol. All of them were unduly exposed to atmospheric changes. All of them gave a clear history of syphilis. Two were employed in the city in the sewerage department, two were hack drivers and two of them were drivers of

express wagons. Two died in convulsions on the fourth (4th) and sixth (6th) day, respectively, after being admitted to hospital. Two were tapped without results, both succumbing to a diarrhoea and dying in a comatose state. Two were tapped and given large doses of iodide of potassium, together with salines, and left the hospital in fair condition. No post-mortems were permitted.

In these types of nephritis, complicated by bilateral hydrothorax, in which there is a clear history of recent syphilis, I have often gotten phenomenal results by tapping and administering heroic anti-syphilitic treatment.

In chronic interstitial nephritis, with its concomitant cardio-vascular degeneration in men past middle life, silent hydrothorax is quite often overlooked.

In the pleuritic form of pulmonary tuberculosis, where the effusion is insidious and gradual in numbers of instances, there are but few symptoms that would lead one to suspect its presence. Only a careful physical examination of the chest will enable one to detect it.

Quite often the physical signs are a composite picture of consolidated lung and effusion, particularly in children where Bacelli's sign obtains—tubular breathing on auscultation. The *dead thigh flat note*, however, over effusions of whatever nature can, in the hands of the experienced percussor, be differentiated from the living resilient, flat note which we sometimes elicit in thickened pleura and in consolidated lung.

In the latter the sounding board vibrates; in the former, it is cracked; in pleuritic effusions the flat note is dead; in thickened pleura, with consolidated lung, it is very much alive.

Carelessness in the application and interpretation of physical signs often lead us into diagnostic errors. I desire to impress upon young practitioners, who possibly

have not had quite sufficient hospital training, to be careful how they inspect, how they palpate, how they percuss and how they auscultate. I wish to emphatically enter my protest against a number of our recent text-books using the terms "flatness" and "dullness" interchangeably.

A few lessons in music prove beneficial. Empyema following delayed resolution in pneumonia, typifies to the highest degree what we understand by silent fluids. Any one who has had out-clinic experience can verify this statement. In a number of instances the author has detected them when there were no symptoms that pointed to their presence.

The patient often comes to the clinic to seek advice about some trivial ailment. In nearly all these instances in out-clinic work, in colored patients, there is a clear history of syphilis complicating the picture, and upon a physical examination of chest, the effusion is recognized.

In April of 1904, a large, robust negro man came to my clinic seeking relief for constipation. He had had pneumonia six weeks previous and stated he had entirely recovered from the attack. His temperature and pulse were normal. There were no symptoms that would lead one to suspect fluid in the thoracic cavity; there was no dyspnea or cough; his weight was 190 pounds. Upon a physical examination of chest, I found apex beat of heart displaced two inches to the right of right nipple. The left side was totally fixed and immovable. There was absence of fremitus over the entire left lung on palpation, and a dead, flat note on percussion and absence of respiratory sound on auscultation. Aspiration revealed a thick pus. Patient was referred to Dr. E. M. Holder's service at City Hospital. At operation, two gallons of pus were evacuated by measurement. The patient made a most rapid and satisfactory recovery.

As proof of his rapid progress, in three

weeks' time after the operation he came to the clinic and presented the writer with a large string of fine perch fish which he had caught that day in lakes of Arkansas, as a token of our kindness to him.

If time permitted we could cite similar cases occurring in children convalescing from pneumonia and scarlet fever.

Reverting to the title of the paper, "The Clinical Significance of Silent Fluids in the Thoracic Cavity," is in recognizing them early. They have, in a large majority of instances, an important bearing on the future welfare and management of the patient.

How much fluid exists? What is its nature? What organs are involved in its production? Shall we or shall we not withdraw the fluid immediately on its detection? are questions we must ask.

Where the fluid is a transudate as a result of renal lesions, the writer has always advocated immediate removal. In these latent forms of parenchymatous nephritis, associated with latent hydrothorax, the secretion of urine is generally scant and heavily laden with albumen.

Blood pressure is low; there is a tendency to vaso-motor paralysis; heart action is not good.

Aspiration acts as respiratory and circulatory stimulant and at the same time, in a great measure, relieves the kidneys and other eliminative organs in their efforts to cope with the surcharge of fluid which has collected.

Of late years considerable discussion from different viewpoints about the advisability of the removal of these silent tuberculous effusions, has arisen. Prominent among those who have written upon the subject are: Babcock, Bonney, Pottinger, Murphy, Janeway, Samuel West and Parks Webber. Some of them are radical, some of them are conservative, some of them are Eutopian. Bonney advises non-interference so long as the effu-

sion does not mechanically interfere with respiration and circulation, and so long as the patient has not any temperature and not losing flesh. Janeway, on the other hand, in an exhaustive report, some of his cases latent, some active, advises prompt evacuation as soon as detected. We have not time here to discuss the pros and cons of the advisability and non-advisability of their removal. There is a middle ground between Bonney's and Janeway's position.

In the author's clinical experience, the withdrawal of these silent tuberculous effusions, where the temperature remains in and around normal and where the constitutional disturbances are not marked, converts this latent picture into a volcanic panorama.

This sleeping tuberculous process is converted into an active systemic forest fire. The patient rapidly declines by the acute pneumonic phthisis route.

On the other hand, where the fluid is silent and systemic infection active, free incision to promote drainage is clearly indicated. Drainage here is analogous to laparotomy in tuberculous peritonitis.

These silent fluids, as results of inflammatory action not giving rise to symptoms, of course can be explained on the ground of their gradual development; the respiratory and the circulatory trees adapt themselves in the same degree. But how are we to explain the absence of dyspnoea and cough and cyanosis in these silent hydrothoraxes that come on rapidly?

Evidently, respiration must be something more than a diffusibility of air and gas between the lungs and blood. Is the hydrothorax in these cases due to stasis from failing heart action, or is it a vaso-motor paralysis? If it is a vaso-motor paralysis, or if it is due to stasis, it seems that dyspnoea, cyanosis and cough would be pronounced.

The author has never been able to satisfy himself on these questions. Von Nuesser, in his hand-book, "Disturbances of Circulation and Respiration," makes no mention of silent hydrothorax. Sajou, possibly, has given us food for thought in his internal secretion theory.

DISCUSSION OF THE PAPER OF DR. JONES.

DR. J. P. McELROY, of Memphis:

Our great high priest of nature has said that "To him who in the love of nature holds communion with her visible form, she speaks a various language." So I think it may be said of him who in the realm of physical diagnosis holds communion with its various conditions, fluids in the thoracic cavity, speak in various terms. Sometimes they speak in unmistakable terms in symptoms and physical signs. Sometimes they speak no less distinctly, if not so loudly, only through physical signs, and sometimes rarely they speak only through the aspiring needle. This type we may look upon as the deaf and dumb type. A patient presenting himself with pain in the side, cough, dyspnoea, rapid breathing, fever, associated with the physical signs characteristic of fluid in the thoracic cavity, speaks plainly to the third-year student. I know infrequently these symptoms and these signs are, as the essayist has said, entirely latent. Rosenbach, in speaking of the various varieties of fluids in the thoracic cavity a few years ago, stated that so-called occult pleurises formerly had considerable reputation, but we, of course, cannot regard them as a distinct variety. They only indicate the inadequateness of our methods of physical diagnosis or a kind of superficiality on the part of the examiner or a lack of reaction on part of the patient. In these forms of silent pleurisy or pleurises with effusion, undoubtedly the majority of them are tuberculous in character, but not always so. I have in mind a case in which I was called in consultation where there was no marked evidence of pain at the onset. The dyspnoea was not great. There had been a running temperature and symptoms of the case spoke to the doctor as being one of typhoid fever. Examination of the chest, however, revealed that the pleural cavity was almost full of fluid, examination of which showed it to be an exudate with a large percentage of polymorpho neutrophils and also pneumococci in the fluid. Aspiration was followed by recovery and subsidence of the fever.

Undoubtedly these tubercular conditions in the pleura associated with effusions may occur sometimes in general miliary tuberculosis, or they may occur as secondary conditions to pulmonary tuberculosis, or they may be a portion of a general tuberculous serositis, and these conditions are not infrequently associated with tuberculosis of the peritoneum secondary to tuberculosis in the pleura, or vice versa.

It has not been my experience, as stated by the essayist, that all forms of fluids in the thoracic cavity associated with cardiac lesions are silent. I may modify that statement, however, by saying that while they may not be silent, they do not speak to us or to the examiner in revealing their presence. Post-mortem observation shows that frequently right-sided hydrothorax is overlooked in cardiac lesions, and I have seen and overlooked some myself, and I have seen a great many overlook in other hands. The respiratory symptoms, the symptoms of dyspnoea usually being attributed to the cardiac lesion.

The message which Dr. Jones has brought us is a very important one, and one which serves to emphasize important points, especially two. First, we should always be careful to make a complete examination of the patient to detect the presence of fluid, and it emphasizes another point, namely, the necessity for a careful and complete examination of these fluids after they are removed, if we would appreciate the clinical significance of these silent fluids.

DR. GEORGE DOCK, of New Orleans:

The essayist and the other speakers have gone over the subject so thoroughly that I have nothing original to add. But the subject is so important that I will take advantage of your kindness in trying to emphasize some of the points that have been brought out.

A careful physical examination is the thing for these cases, and very often trouble comes not so much from the fault of the doctor as from the fault of the surroundings. Very often we have to examine patients in dark rooms or in imperfectly lighted rooms. One of the easiest ways to detect such conditions is to get a difference of expansion on inspection, and especially a difference in Litten's diaphragm shadow.

Another point I would like to emphasize is the importance of not paying too much attention to negative signs. For instance, take the displacement of neighboring organs; we can have a good deal of fluid in the thorax with-

out causing much displacement. A short time ago I saw an interesting case where the patient had a history and signs of an old cirrhosis of the left upper lobe. That diagnosis was made by a number of physicians. When I examined the patient's back I found he had a distinct Grocco sign, but no distinct displacement of heart or spleen. On putting a needle into the back after I had said there was positively fluid there I withdrew fluid and the subsequent course proved it was important to do that because the fluid was bloody, suggesting a neoplasm, in the absence of tuberculosis, which turned out to be right.

A young woman had left-sided pleurisy with a pint or more of fluid in the cavity without displacing the heart to the right or the diaphragm downward.

Another point is the free use of the needle. How often one sees patients taken to surgeons for aspiration. The man who examines these patients should be able to make a clean and aseptic aspiration. Aspiration should be done freely and done as soon as there is any suspicion of the existence of the fluid in the pleural cavity because there is absolutely no method of telling the character of fluid without getting it out. The symptoms have nothing to do with it. Leucocytosis has nothing to do with it. Temperature has nothing to do with it. One may have pus without rise of temperature and without leucocytosis. One can have striking symptoms with clear fluid. The early use of the needle is essential in giving us accurate knowledge of what is within the cavity and the nature of the fluid.

There is one other point of value—early tapping—as Dr. Witherspoon has pointed out, and particularly in cases of pneumonia I have found this useful. If dullness remains after some of the other symptoms have subsided I use the needle, and in doing so I believe I have kept patients from getting empyema. Take the case of a man with double pneumonia whom I examined. He had signs of what is commonly known as unresolved pneumonia on the right side. I put in a needle and found he had turbid fluid there. I thought it would be interesting to get out all of the fluid to see how much there was. I got out four hundred c. c. It was quite turbid. Microscopic examination showed it to contain pneumocci. I expected the case to go on to empyema, but the man got perfectly well.

Only recently I had a boy with pneumonia, which was followed by fluid in the plura. I

took out about fifty c. c. of fluid and he went on, in spite of severe symptoms, to recovery. If we use the needle early we will not have to take out two gallons at a time—an operation which must be looked on as one of great danger, not so much from causing a conflagration, as Dr. Jones has so graphically described, as having the patient drop dead, as I have seen once or twice following a change in the circulation from the removal of so large a quantity of fluid. That, I think, is a very important corollary from Dr. Jones' very important paper.

DR. JONES (closing the discussion):

I wish to thank the gentlemen for their liberal discussion on my paper. I do not know that I can add anything to what has been said by them except to corroborate the views that have been advanced.

With reference to these silent fluids, as I have been pleased to denominate them, I am inclined to think that sometimes we are burdened with too many men's names. In a conversation with Dr. McElroy and Dr. Dock they turned me down hard by saying there is nothing in this tubular breathing as having a bearing on fluids in the chest cavity, a view to which I cannot accede. In my experience I have found Bacilli's sign a distinctive physical sign which has led me out of very deep water and kept me from being confused in cases of pleurisy with effusion and consolidation. Several times in patients having pronounced tubular breathing I have been convinced there was

fluid present and was persuaded by others it was not fluid. We could not agree as to that.

DR. McELROY:

What is Bacilli's sign?

DR. JONES:

Tubular breathing in children where the pleurisy is sero-fibrinous in nature. Sometimes there is no pr's. Dr. Dock referred to a triangular space behind, and where this triangular space is pushed to the opposite side and there is flatness, that is evidence of effusion. I do not attach much importance to Grocco's sign; nor do I attach any great weight to Litten's phenomenon. I heartily agree with Dr. Dock that we do not have displacement in some cases of pleuritic effusion. We do not have displacement when there is accumulation of fluid in the pericardal sac, where the adhesions are great and the heart is bound down. In those cases where there is a nodular state of affairs and the fluid is sacculated, there is no indication nor physical reason for there being displacement of viscera.

I was pleased to hear what Dr. Dock had to say with reference to cytolytic diagnosis. In these cases, while we may make a clinical diagnosis of the case being thus and so, by a thorough analysis of the fluid microscopically we can determine what the nature of the condition is, but, at the same time, the broad fundamental principles of physical diagnosis must obtain, and the laboratory man must not be the bull in the pen ahead of the diagnostician. They must run hand in hand.

SYMPTOMS AND EFFECTS OF ADENOIDS. ✓

W. LICKLEY SIMPSON, M.D., MEMPHIS.

IN writing a paper to be read before the State Medical Association I decided upon adenoids, as I believe there is not another condition with as many symptoms, effects and complications which is so often overlooked. To state further, the advancement of children in the public schools is very much retarded by the fact that many of them have adenoids. The number of children suffering from adenoids in the public schools is difficult to say, but Zaalberg stated "that the percentage among five hundred boys and girls was 33.1-3 per cent and the children making the least progress were those having the largest adenoids, and *vice versa*." It is certain that our schools are burdened with children who have adenoids and which condition has not been diagnosed. Our homes also contain a high percentage of children of pre-school-day age, which children have adenoids many times undiagnosed.

Thinking I might stimulate a more thorough consideration of these unfortunate adenoid-affected children, I am writing this paper.

The most common symptoms are those due to stoppage of the post nares by the growth in the naso-pharynx. The mouth is held open to enable the child to breathe. This is especially noticeable when the child is asleep and the mouth is open all the time if there is a large growth or if it has been present a long time. It may be possible to breathe but very little through the nose. This condition is often partly due to colds in the nose, to which these patients are very susceptible; in fact, many are seldom without colds. Discharge from the nose also into the pharynx is usual. Snoring is a common

symptom, usually more noticeable the larger the adenoid.

Taste and smell are often impaired, due to the inability to breathe through the nose. Defective speech is quite a prominent symptom. Articulation is imperfect, the voice is muffled, and the tone of the voice is impaired. It is often possible to make a diagnosis just from these symptoms.

Restlessness of the child, especially at night, tossing the covers off, is usually present in the marked cases, especially the mouth breathers.

Enuresis and night terrors are common. Aphrosexia or difficult attention is often a prominent symptom and it is often this which attracts the teacher's attention.

An elevated temperature is often present due to the present inflammation of the adenoid. Hypertrophied tonsils are usually present to become inflamed at the same time the adenoids are causing the rise in temperature.

Adenoids if present can always be felt with the finger and this is the only absolute accurate way of telling whether adenoids are present in all cases. A boggy, worm-like mass in the epipharynx could hardly be anything else but adenoids. In most cases having adenoids the growth can be seen with the throat mirror, many of these can be seen through the anterior nares.

The symptoms of adenoids in infancy are as a rule not well understood. They are by many given little thought and more often are overlooked than interpreted. They are somewhat different than in childhood, but are characteristic

enough so that they need not be disregarded.

Before considering the symptoms of adenoids in infants it might be well to say a word or two about the anatomy of the naso-pharynx at this period.

According to Ingersoll (2) the naso-pharynx in early infancy is a relatively long and shallow tube extending downward and backward being very low. The choanae are practically round in infants but soon become elliptical.

Morse (3) says the nose is relatively small and that the size of the posterior opening doubles in the first six months and then remains stationary for the next two years.

It is easily to be seen that a small adenoid growth in an infant would produce serious trouble. For instance an infant which has adenoids would be greatly hindered in trying to nurse. If it were possible to breathe but little through the nose, then as the child would nurse, the tongue would be pressed against the hard palate and the lips closed, then of course the child would have to stop nursing to breathe and in this way these infants only take enough nourishment to barely sustain life.

Of course they are mouth breathers, are restless and sleep badly and are subject to frequent colds as older children are, but often the symptoms are not so noticeable. Morse says babies with frequent colds almost always have adenoids, also that adenoids are one of the commonest if not the most common cause of chronic sniffles in infancy and that they are frequently overlooked because the baby does not keep its mouth open, snore at night, or have a typical face of adenoids.

Effects or sequelae of adenoids.

The adenoid facies is quite characteristic. The protruding and irregular teeth, especially of the upper jaw; the open

mouth due to inability to breathe through the nose; the short upper lip; broad, flat upper one-half of the nose; the small narrow openings of the anterior nares, etc., give the adenoids facies which is so typical of an adenoid growth. Not only the incisors but all of the teeth may be irregular, and it may be the dentist who first calls attention to the existence of adenoids.

The high arched palate is supposedly characteristic for adenoids, but of late it seems that this high arch is only apparent and is really only a narrowing of the arch with the normal height.

The mental faculties are usually much impaired especially in those cases with large growths. The child is listless, inattentive and this is the child which is not advanced so rapidly as its more fortunate schoolmates. Due to lack of proper amount of nasal breathing and the proper amount of oxygen, the lateral walls of the chest are contracted and the ensiform cartilage becomes more prominent than normal, producing the "Pigeon Breast." The lungs are small and the breathing is shallow.

These children are often anemic and much more liable to disease than a normal child.

Enlarged glands of neck, etc., are also common.

Rickets is very liable to develop, due to the disturbed nutrition; this is especially to be thought of in very young children.

Children with adenoids frequently have attacks of croup and laryngitis.

The continued passage of the mucous from the adenoids into the stomach may set up gastric derangements which cannot be relieved till the adenoids are removed.

Ear effects:

Adenoids are very often the cause of

inflammation of the Eustachian tube, the middle ear and mastoid.

A few words here in regard to the anatomy of the Eustachian tube in infancy and childhood compared to the adult might not be amiss.

Kerrison (4) says, "In the newly born infant the Eustachian canal presents the following marked variations from the adult:

1. It is of course much shorter, measuring not more than 14 to 15 mm. (33 to 38 mm. in the adult).

2. The tympanic orifice and the calibre of the bony tube are quite as large as in the adult. The whole canal in proportion to its length is therefore much wider.

3. The two portions of the tube, *i. e.*, membranous and bony, are nearly in the same straight line, so that there is no demonstrable angle at the point of junction.

4. The whole tube is nearly horizontal in direction so that while the pharyngeal orifice in the adult is on a lower level by 12 to 14 mm. than the tympanic orifice, it is on the same plane as the latter in the infant at term.

5. The pharyngeal mouth of the tube in the infant at term is on a level slightly below the hard palate, whereas in the adult it is some 10 mm. above the level of the hard palate.

One can easily understand from the above why ear and tubal effects are often experienced especially as compared to the same conditions in the adult.

With the comparatively small pharynx, with tubes as above described or varying somewhat from that according to the age of the child, with the pharynx containing much vascular lymphoid tissue, or as it sometimes occurs the adenoid tissue extends into the tube, this lymphoid tissue acting as a receiver and culture media for millions of bacteria, this area being covered with mucous and pus and sub-

ject to marked swelling at each attack of cold and inflammation, etc., it is hard to understand how these little patients escape tubal and ear trouble.

Leland (5) says, "I am sure there is no child to be seen with earache not caused by injury where adenoids are not present; with the possible exception of the infection of the exanthemata and of influenza and then even here it is very doubtful." I believe most of us agree that we see practically no earaches in children without adenoids being present, though of course they may not be large.

The different forms of affections are:

1. Tubal.

2. Acute and chronic catarrhal otitis media.

3. Acute and chronic suppurative otitis media. The above would not in most cases become chronic if the adenoid were properly treated.

4. Mastoid inflammation, which is really a part of the middle ear trouble, as it is hard to see how a middle ear can be inflamed without inflaming the rudimentary mastoid antrum at the same time.

While hypertrophied tonsils are not a symptom or effect of adenoids, I do want to make the statement that I never have seen a case of hypertrophied tonsils without a pathologic enlargement of the lymphoid tissue of the epipharynx, it is therefore really a very prominent symptom of adenoids.

I want to say in conclusion:

- ¹That the symptoms and effect of adenoids are not seriously enough considered.

- ²That it is not necessary to wait till all the cardinal symptoms of adenoids are present before the child should be given relief.

¹Tydschr v Geneesk, May 13, 1905 (Abstract Annal Otology, Rhinology, Laryngology, Vol. XV, page 390).

²Laryngoscope, page 900. Dec., 1909.

³That it reflects upon the doctor when a child or infant becomes anemic, rackitic, or has ear complications, recurrent attacks of croup or has the adenoid facies, etc., if these conditions are due to the adenoid vegetation.

⁴That particular attention should be paid to children which are not up to the standard in the school.

⁵That it is always possible to tell by means of a trained clean finger whether adenoids are present.

DISCUSSION ON THE PAPER OF DR. SIMPSON.

DR. G. C. SAVAGE, of Nashville:

I want to agree heartily with the author of the paper that the condition which he described is not fully appreciated by the profession. In order to make that emphatic, I want to say to you that in Europe this condition is fully appreciated, and that appreciation has taken the form of the erection of a monument to Meyer, who discovered the condition and first treated it. Those who may visit Copenhagen may see this monument. It shows something of the appreciation of the importance of this condition on the part of foreign confreres. The appreciation of the condition in this country I am quite sure is being augmented year by year. If I can judge of the matter from what I hear from my confreres, its importance is being greatly appreciated now as compared with a few years ago. I know of no one condition in childhood that calls for treatment so exacting as the removal of adenoid tissue in the vault of the pharynx, and I want to endorse the statement which the doctor has made in his paper that this trouble ought to be so treated. The author stated that the presence of adenoids is responsible for inflammation of the middle ear. That is absolutely true, and it cannot be made too emphatic; but when the ear is inflamed an operation ought not to be done—that is, when there is an acute condition of the middle ear. Otherwise it may be demanded, and should be done.

If I had known that Dr. Vaughn would not be here to open this discussion I would have brought with me an instrument for exhibition which some of you have probably seen. This

instrument has been invented by an American physician who resides in Chicago, and his name is Gradle. The adenotome invented by Gradle is an ideal instrument for an ideal operation.

DR. J. T. HERBON, of Jackson:

I did not expect to say anything on this subject this afternoon. This paper is very important, and we all appreciate the fact that specialists understand this disease better than ever before, as well as the general practitioner. The old saying that a discharging ear will do no harm, that it will soon cease, or subside, has been followed by a good deal of harm, and I am glad to know that such an expression is rarely ever used today by the general practitioner, and I hope it will not be used in the future.

I want to call attention to one symptom which I think the doctor did not bring out fully, although he may have observed it in connection with his cases. Several years ago my little boy (Dr. Savage saw him with me) complained of headache. He would get up every morning with headache. When a patient has headache we generally look to the eyes as the cause of the trouble, especially if it is over the eyebrow. I noticed that during the day my boy would not have these headaches, and this was rather puzzling to me. These headaches began to interfere with his memory. He was a bright fellow at school, but his memory began to fail, as you know it will if the adenoid symptom involve the frontal sinus. I began to investigate the cause of these headaches, and I found upon examination that he had adenoids. I noticed in the morning when he got up he always complained of headaches, but as the day advanced the headaches would wear off. In the differential diagnosis between eye strain and adenoids, we should remember that the latter patients on getting up in the morning will complain of headache. This may be due to mouth breathing while the patient is lying down, and the headache will wear off as the morning advances, and by noon the patient will be entirely relieved of the headache. On the other hand, if the patient has eye strain, the headache will continue throughout the day. I operated on this boy, and he has not complained of headache since. That is one symptom which is sometimes overlooked. It is a valuable symptom to the general practitioner when these cases come to him with headaches. He should look for adenoids and see if they are not the cause of the headaches.

A week ago a lady came to see me from some distance. She had had a severe cold. She had

³Jour. A. M. A. Page 1589, Vol. XLIX.

⁴Laryngoscope, XVII, 1907, page 663.

⁵Laryngoscope, Vol. XIX, October, 1909, page 726.

tympanitis, and a frontal sinus abscess on right side. She was twenty-three years old; she was not a mouth breather, so far as I could discover. She had that peculiar sign or condition of the mouth which we generally find in cases of adenoids, squirrel roof. I began to treat the symptoms and paid particular attention to the frontal sinus abscess. Upon examination I found she had adenoid tissue. It was not a plain case, but she had that thick membranous deposit back of the throat which would bleed very easily when touched. In examining the fauces and passing the finger back of the throat one could easily produce a hemorrhage, and in this case the hemorrhage was quite profuse. I said to the woman, "If you are going to get well of this trouble, you must be operated on." I directed my treatment to the nose, as I never operate in these cases where there is tympanitis. I let the case go for a while, and never operate where we have enlarged tonsils due to an acute inflammation of the tonsils. I let the acute inflammation subside and operate later. To my astonishment, that woman went a few days ago to some other doctor, who told her she did not have adenoids. I do not think he was a specialist, because I think a specialist in passing his finger behind the fauces would be able to detect

adenoid tissue. It is unnecessary to have a large mass of adenoid tissue to do great damage. I admit that a large mass of adenoid tissue is more likely to produce great damage than a case not so well developed; but sometimes it is unnecessary to operate on those cases where there is little adenoid tissue. We used to think it was unnecessary to operate for the removal of a slightly enlarged tonsil, but those are the most important cases to operate on.

DR. SIMPSON (closing the discussion): This condition is, it seems to me, more frequently overlooked than any other one thing with which we have to deal. There is one thing we should always remember, and that is, never to treat a running ear until we find out whether the patient has adenoids or not. I was glad to hear Dr. Savage say something in regard to removal of adenoids in cases of acute running ears. I have not been in the habit of doing that as a rule, but I have seen some literature, and have had some results in the last year which has convinced me that the removal of adenoids in acute middle ear trouble will be quite a common operation in the near future. It may yet prove better to let the inflammation quiet down and operate later on the adenoids.

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A. M. A.

Sixty-First Annual Session of the A. M. A., Held at St. Louis, Mo., June 6 to 10, 1910.

As was to be expected, this meeting, from the standpoint of attendance and interest, from all reports, was a great success. The report of the general Secretary showed that the membership of the American Medical Association, on May 1, 1910, was 34,176, a gain over last year, though the gain was small. A large number of members resigned during the year, which resignations were accepted because members were not eligible under the by-laws. This included some from every State organization. Some resigned on account of age.

The Association received in the fall of 1909 an application for recognition and affiliation from the Medical Association of the Isthmian Canal Zone. This was referred to the House of Delegates and recommended for adoption. The adoption of this resolution would put the Isthmian Canal Zone in close association with the American Medical Association.

The report showed that the various State Associations have a total membership of 70,146. This would indicate that only about half of the membership of each

State Association belongs to the A. M. A. This, however, is changing and the membership of the A. M. A. is growing each year.

The report of the Board of Trustees gives some very interesting information touching the *Journal*. The regular weekly issue of the *Journal* from January 2, 1909, to December 25, 1909, show a total number of *Journals* issued for the twelve months of 2,878,799, average weekly issue being 55,361. This is a yearly increase of 71,899 copies, or an average weekly increase of 1,382 copies. From a table giving number of physicians in each State and the number of these taking the *Journal*, the highest percentage in the State goes to the credit of Minnesota, as 62.9 per cent of the physicians of that State are subscribers to the *Journal*, whereas in Tennessee only 23.5 per cent of the physicians in the State are subscribers to the *Journal*. According to this table, our State stands next to the bottom of the column of percentage in this respect. It is hoped that the physicians in Tennessee will more generally subscribe to the *Jour-*

nal, as it is one of the best medical journals within the reach of the profession and should be in the hands of every physician in the State.

The Auditor's report shows a very satisfactory condition of the business affairs of the *Journal*. On December 31, 1909, assets were:

Property and Plant	\$173,081 86
Investments	154,231 88
Current Assets	72,148 42
<hr/>	
Total Assets	\$399,462 16
Liabilities	2,926 95
<hr/>	
Surplus Assets	\$396,535 21

This would indicate a very healthful condition of the business affairs of the Association and should be a cause of pride to every physician, whether member or non-member. In the same issue of the *Journal*, from which these notes were taken, will be found reports of Committees on Medical Legislation, Medical Education, Ophthalmia Neonatorum, Committee on Anesthesia, and Committee on Memorial to Medical Officers who died in the Civil War. All of these reports are of great importance and much interest, as they indicate the general trend along these important lines.

THE JOURNAL.

It is well known to all members of the Association that the JOURNAL is the official organ in which should and must appear all matters of interest growing out of the annual meetings of this Association. It is a well-known fact that all papers, reports of cases appearing upon the program to be presented at any regular annual meeting, becomes by reason of this fact, the property of this Association and are received for publication in its JOURNAL. In addition to this, papers which are prepared for the annual meeting, but are not read except by title, are also constructively the property of the Association, and a special motion bearing upon these points was passed at the Memphis meeting. We call attention to these facts for the reason that some members of the

Association are disposed to hold their papers, not turning them over to the Secretary-Editor, and also some of those who prepare papers, but do not read them, have failed to furnish copies of same for publication. The JOURNAL is dependent upon these sources for material, and the Editor naturally expects every physician to comply with the rules of the Association in regard to these matters. We will also call attention to the fact that some papers presented and read at Memphis have already been published in other journals. This is an unfortunate circumstance and should not occur, for other journals will not accept, for publication, papers which have already appeared in print. It would be courtesy, at least, if those presenting papers at the annual meeting would hold these things in mind.

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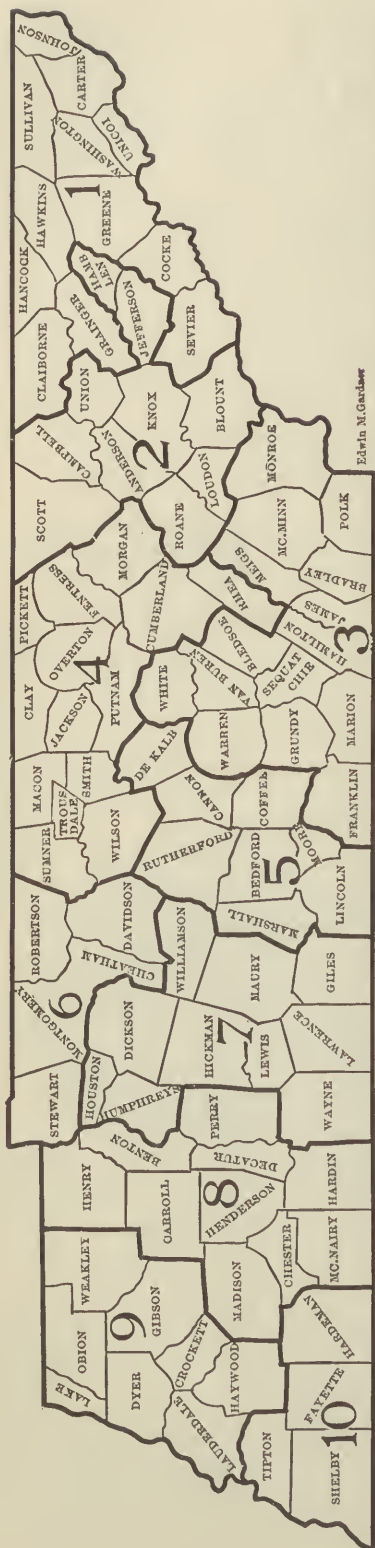
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black-line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date, of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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ENLARGEMENT OF THE PROSTATE.

BY L. E. BURCH, M.D., NASHVILLE, TENN.

My object in bringing the subject of enlargement of the prostate before this distinguished body is to call to your attention its frequent occurrence, and the importance of an early diagnosis. In this brief paper I will deal only with the common enlargement of this gland which is generally spoken of as Prostatic Hypertrophy. The normal prostate is one and a half inches broad, one inch long and three-fourths of an inch deep. It is composed of glandular substance set in a stroma of muscular and fibrous tissue. The muscle forms the chief bulk of the gland and expels the prostatic fluid. The exact function of the prostate is not known. It, however, belongs to both the urinary and generative tracts. It not only assists in urination, but also the prostatic fluid acts as a diluent to the testicular secretion and the fluid of the seminal vesicles. The testicular secretion is alkaline, the prostatic acid. Furbinger has shown that a small amount of prostatic fluid excites the spermatazoa to action, a large amount kills them. Steinach has shown that the removal of the prostate and seminal vesicles in white rats does not prevent passion and sexual act with discharge of fluid. It does, however, prevent fertilization. On the other hand, if the seminal vesicles alone are removed, the fertilizing power of the semen is only impaired.

At puberty the prostate develops

rapidly, and in old age, under normal conditions, undergoes more or less atrophy. The direct cause of prostatic hypertrophy is unknown. The symptoms, however, most commonly appear after the age of 55. Sir Henry Thompson states that 33 1-3 per cent of men beyond the age of fifty-five are subject to enlarged prostates, but not more than 5 per cent of these present symptoms. In the light of recent investigation, we do know, however, that gonorrhea plays no part. It is just as common in those that have not had a posterior urethritis, as it is in those that have. Freyer claims that previous habits are not to be considered as an aetiological factor, that it is as common in the married as in the unmarried; in the continent as in those that have indulged in sexual excesses; in persons of sedentary as of active habits. Young, on the other hand, claims that in his series of cases it was more common in married men, and states that he has never seen it in a Catholic priest. We also know that it is not due to a general arterial sclerosis ending in fibroid degeneration, and that it is not analogous to fibroid disease of the uterus. The enlarged gland varies in size from normal to that of a cocoanut, the prostatic urethra being invariably lengthened. The growth is of neoplastic nature, and usually begins in the central group of glands. One or all of the lobes may

be involved, or only a part of a lobe. The growth to a certain extent is prevented by the triangular ligament from enlarging from below. It, therefore, goes upward to the bladder in the direction of least resistance. The urethra is carried up with the growth, which places its inner orifice on a higher level than the base of the bladder, and in this way forms a pouch. At first the bladder is able to empty this pouch by means of a compensatory hypertrophy. Later dilation of the bladder occurs from overwork, and residual urine accumulates sometimes to the extent of several pints. Cystitis is bound to occur, and in the last stages an ascending infection. The amount of disturbance from prostatic hypertrophy is not dependent on the size of the tumor, but is dependent on the degree of obstruction of the posterior urethra and also on the effect produced on the extrusor functions of bladder, independent of obstruction. There are two varieties of prostatic hypertrophy: first, the glandular, which is by far the most common; second, the fibro-muscular, which produces a smaller and a firmer growth. Inflammation produces obstruction, but this cannot be considered a true hypertrophy. It is well to remember that the growth is usually elastic, and that cancer rarely, if ever, begins in a benign hypertrophied prostate. The symptoms are usually well defined, in the majority of cases appearing between sixty and seventy years of age. Frequency of urination, especially at night, is quite characteristic of prostatic hypertrophy. There is a difficulty in starting the stream, with a tendency to dribble at the end of the act. The stream lacks force, and often there is an incomplete stoppage, with a tendency to strain. Pain is usually present: it may be quite severe, or may be limited to the act of urination. It is sometimes reflected, and may sim-

ulate a sciatica or rheumatism. Retention may be the first symptom, and it often occurs during the course of the disease, following slight indiscretions. Haematuria is not unusual. It is sometimes the first symptom, but it is rarely severe. Incontinence may occur, occasionally it is the onset symptom. On rectal examination it may or may not be possible to make out an enlargement. It is well to remember that considerable obstruction can occur without a palpable mass in the rectum. On the other hand, a bulging mass may be found which partially obliterates the lumen of the gut. The mass is not especially tender, and is usually of a smooth consistence and elastic. A hard mass is suggestive of cancer. The diagnosis is made by a careful review of the symptoms, rectal examination, the determination of the amount of residual urine, and relations of growth to bladder. The amount of residual urine is made out by first having the patient urinate, then under antiseptic precautions, a catheter is inserted, and the residual urine drawn off. If the amount of residual urine is large, it should not all be drawn off at one sitting, for the reason that it is likely to produce shock or hemorrhage. The size and direction of the growth is best determined by the cystoscope. It can also be made out fairly accurately by the introduction of a sound in the bladder, and palpating the growth between rectal examining finger and sound. The only condition that is likely to be mistaken for prostatic hypertrophy is cancer. Cancer is of more frequent occurrence than was formerly thought. Young in a series of five hundred cases of prostatic enlargement found cancer in one hundred. As has been mentioned before in this paper, cancer rarely, if ever, occurs as the result of a degeneration from prostatic hypertrophy. While the two may exist together, yet

they begin in and involve different parts of the gland. The symptoms of the two are very much alike, except that pain is much more pronounced in cancer than in hypertrophy. This is especially true of the reflex pains in hips, thighs, etc., brought about by an encroachment of the growth on the sacral nerves. Haematuria is a more common onset symptom of hypertrophy than of cancer. On rectal examination the growth is hard, irregular and more firmly fixed than in hypertrophy. When both hypertrophy and cancer exist together the growth may be soft. The cystoscope is valuable in making a differential diagnosis. In cancer there is, as a rule, no involvement of median and lateral lobes and bladder.

Treatment.—If the case is seen early, palliative treatment is indicated. This should consist of tonics, regulation of the secretions and excretions, regular habits and dilation of the prostatic urethra, followed by an injection of one of the silver salts. If this treatment fails and residual urine begins to accumulate, then the patient should be given the choice of a continual catheter life or operation. I am firmly convinced that if the advantages and disadvantages of both are fairly stated the majority of patients will select operation. In advising an operation the first point to be considered is the mortality. Hugh Young, in a period of two years and eight months, operated on one hundred and twenty-eight cases without a death, and in four hundred cases had a mortality of 3.25%. Freyer, in a series of six hundred cases, had a mortality of a little over 6%, the mortality in the last two hundred being much less than

in the first four hundred. Both of these series of cases were not selected, and represent patients of all ages, and many of them in a very desperate condition. The next point to be considered is the result. Young states that out of two hundred and fifty inquiries, two hundred and twenty-two stated that they were absolutely cured, twenty-one as almost cured, and not a single one that was not improved. Freyer claims a cure for practically all of his cases. These statistics clearly show that prostatectomy has not only a low mortality, but the permanent results are correspondingly brilliant. I might add that a patient is never too old, or too feeble, for a prostatectomy. There are two routes for the removal of this gland—the perineal and suprapubic. If the tumor is low down and well defined by rectal examination, the perineal route is the operation of choice. On the other hand, if the patient is stout and has a long prostatic urethra, or if the tumor is prominent in the bladder and is not palpable by the rectum, then suprapubic prostatectomy is indicated. Between these two extremes are the borderland cases that can be reached by either route, depending on the choice of the operator. If the patient is in a very low state, the two stage operation is indicated, performing first a cystotomy, and then in the course of one or two weeks the gland should be removed. After operation the patient should be gotten out of bed the second or third day, drainage tubes and gauze removed at the end of forty-eight hours. It is unnecessary to pass sounds, as stricture formation will not occur.

CHRONIC PROSTATITIS.

BY GEO. R. LIVERMORE, M.D., MEMPHIS.

INFLAMMATION of the prostate may be either acute or chronic. The former causes such marked and urgent symptoms that the sufferer usually loses no time in seeking relief, but the latter frequently gives rise to such vague symptoms that the patient often neglects himself and even when his symptoms become aggravated enough to cause him to consult his physician, they are so misleading that he is treated for almost every disease except prostatitis. It is for just this reason that I have chosen this subject, with the hope that my paper may promote some discussion, which will prove beneficial to us in our future treatment of this condition.

The cause of prostatitis is infection. This infection may be the gonococcus, the staphylococcus, the streptococcus, or the colon bacillus. As congestion predisposes to infection, anything that would cause congestion of the prostate (such as traumatism, excessive intercourse, constipation, masturbation, hemorrhoids, long continued, ungratified sexual excitement, too acid or too alkaline urine, irritating injections, chilling and overfatigue), would be a factor or the factor (as infection would probably not occur without the congestion) in the production of chronic prostatitis.

The difficulty of curing gonorrheal prostatitis is too well known for me to add anything that will make its seriousness more apparent; but the nongonorrheal variety is considered of so little consequence by many practitioners that it has not received the attention it deserves. Dr. Max Huhner, of New York, in an article entitled "Clinical Gonorrhea in the Male," states that chronic

post-urethritis and prostatitis (the results of masturbation) can be rapidly and permanently cured by massage of the prostate, deep urethral injections and the avoidance of tea, coffee and alcoholics. Such may be the case in a few, but the vast majority of them are exceedingly intractable, so much so, that both doctor and patient must possess a great deal of patience to keep up the treatment till a cure is obtained. It has also been my experience that relapses are common, and many patients, discharged as cured, will return in a few months, or go to someone else (most probably the latter) for further treatment. Dr. Hugh Young appreciates the gravity of these cases and states that some will resist all manner of nonoperative treatment, and the removal of the two lobes of the prostate is the only remaining hope, and even this may fail to effect a cure. Kreiss says: "The far-reaching consequences of chronic prostatitis; its local effect on the structure of the gland; the subsequent lesions in the bladder and kidneys, the long train of local and reflex disturbances; and the functional derangements, terminating in sexual neurasthenia, require our full attention."

Those who take too optimistic a view of chronic prostatitis, have either had little experience or else have allowed their enthusiasm to get the better of their judgment, for it has been my experience that these cases are among the most difficult and trying that the genito-urinary specialist is called upon to treat.

The symptoms may be entirely absent, slight or very severe. There is usually increased frequency of urination, deep urethral pain, which may radiate to the

scrotum, rectum or down the thighs; fullness in perineum, pain at peno-scrotal junction and within first one-fourth to one-half inch of urethra, is especially characteristic. A milky or mucous discharge may appear at meatus after urination or defecation. Backache may be severe, and pain in joints and extremities is common. A quite frequent symptom is a feeling after urination that the bladder has not completely emptied itself. Sexual desire may be greatly increased, diminished or entirely absent. Nocturnal pollutions, often bloodstained, are frequent, and premature ejaculation, with loss of pleasurable sensation, is often complained of. Irritability of temper, neurasthenia or melancholia may develop.

Diagnosis.—Made by foregoing symptoms and by examination of the prostate by palpation with finger in the rectum. The prostatic secretion, expressed by massage, may appear at the meatus or remain in the urethra and be washed out by the urine. We depend on two substances in the prostatic secretion for an accurate diagnosis, viz: pus and proteid. Ballenger says the presence of polymorphonuclear cells is characteristic of prostatitis, if the urethra, as a source of contamination, has been eliminated. Spermatozoa, mucous, epithelial cells and phosphates are also found in the prostatic secretion.

Treatment.—Regulation of diet, exercise, and sleep. No highly seasoned food, no alcoholic drinks, no tea or coffee; bowels must be kept open. Render urine bland. Intercourse is not prohibited, but ungratified sexual excitement, such as is produced by reading vulgar stories, associating with lewd companions and last, and by far the worst, hugging and kissing a woman, must be absolutely abstained from and the patient should be warned that he cannot be cured if he indulges in such pastime. The patient should take hot or cold sitz baths daily

and use rectal injections of hot or cold water, using a Kemp's or other good continuous-flow rectal tube. Prostatic massage is the treatment par excellence. It should be done carefully and systematically, beginning with gentle massage, lasting only a minute, one or twice a week, and increasing in frequency, in time, and strength till given every other day. The bladder should be irrigated after the massage with some antiseptic solution, or a good plan is to fill the bladder moderately full with some antiseptic solution, massage the prostate and then allow the patient to void the solution, thus carrying away the debris expressed from the prostate.

After irrigating the bladder, instillations of stronger solutions may be made to the prostatic urethra.

The passage of increasing sized sounds, previously cooled in iced water and coated with carbolic ointment, once or twice a week, and allowed to remain in the urethra 5 to 10 minutes. The application of heat to the prostatic urethra by means of the psychropor is also recommended.

The urethroscope may show the verumontanum highly congested and enlarged or reveal ulcerated areas in the prostatic urethra. The removal of a portion of the verumontanum with a snare or the cautery or cauterizing it with a 20% nitrate of silver solution or strong nitric acid often works wonders. Ulcerating areas should be touched with 20% nitrate of silver. Faradism and the high-frequency current are said to be beneficial. My experience is limited to faradism and I cannot say I have ever noted any great change following its use.

Suppositories of ichthyol, mercurial ointment and iodide of potash, also of iodine, belladonna and hyoscyamus are used, but I have not had much success with them.

Ergot is given internally in combina-

tion with bromides and tonics, and antipyrine, phenacetine, monobromate of camphor, codeine and lastly, opium, are used to control the pain.

Finally we have the operative treatment which consists of the removal of both lobes, leaving the isthmus or central

lobe intact. As promise of relief by this means is far from certain, and as the danger of making a hopeless sexual neurosthenic if we fail, is great, we should exhaust every other known means of treatment before risking our patients' all on one cast of the die.

SOME PHASES OF THE DIAGNOSIS AND TREATMENT OF PROSTATIC OBSTRUCTION.*

BY BRANSFORD LEWIS, M.D., B.S., ST. LOUIS, MO.

✓ To TAKE up and study all of the several different phases of prostatic obstruction, would be outside the province of a brief contribution such as this is meant to be. If we consider fairly well the two most interesting phases, only, diagnosis and treatment, we shall have enough to occupy our attention for the time being.

Prostatic obstruction is a condition that is generally looked upon as pertaining only to middle or advanced age; and as related to enlargement or hypertrophy of the organ. Both of these impressions are far from the truth, although they do indicate the general rule. I recently operated and removed the prostate from a man 43 years of age, who had suffered severely from prostatic obstruction for ten years previously; that is, the obstructive symptomatology began when he was 33 years of age, and continued with increasing violence up to the time of operation. I am personally acquainted with several individuals who have had definite or severe obstruction at the site of the prostate from their youth up. Their earliest remembrance is connected with straining at urination, or explaining to other boys why it took them so long to finish the act of urination. The enduring obstruc-

tion and backward pressure have made themselves manifest, in such cases, by dilation and atony of the bladder, dilation and ultimately destruction of one or both kidneys. One such case, who came from El Dorado Springs, Mo., grew from infancy to manhood with just such straining at urination; and he had dilated bladder, ureters, and one dilated kidney. Before he could be given relief, the prostatic obstruction had to be removed by perineal operation, and the left kidney had to be opened and drained for some time. But his recovery was complete, and he has been able to work on his farm for the last several years. In the first of these two cases there was hypertrophy of the prostate producing the obstruction; in the second there was no hypertrophy, although the obstruction was just as effective as in the other.

This forces on us a broader conception of the subject than is usually accredited to it. Prostatic obstruction means more than simply an enlargement of the organ that, in enlarging, stands in the way of the urine and prevents its easy escape. Prostatic obstruction is effected in several different ways, dependent largely on the *form* of the enlargement, if there be one; on its location with reference to the outlet; on its size, as well as other accompanying conditions. The several

*Read by invitation before the State Medical Society of Tennessee, at Memphis, April, 12, 1910.



Fig. 1.

Contracture at neck of bladder, with deep bas fond.



Fig. 3.

Hypertrophy of right lobe and nodule: left lobe of normal size.



Fig. 2.

Hypertrophy of middle lobe.



Fig. 4.

Pedunculated middle lobe.

different forms of *hypertrophy* are shown in the drawings exhibited herewith, the most of which are taken from actual pathological specimens in my possession. These forms are subject to fairly definite classification—such as the median lobe, the prostatic bar, the enlargement of one or both lateral lobes, the nodular form, etc. The form in which the *obstruction without hypertrophy* occurs is called contracture at the vesical neck; and I believe comes from either nervous or inflammatory origin; resulting in a narrowing of the outlet in the shape of a cicatricial ring tightly surrounding that point. (Fig. 1.) As before mentioned, although there may be no hypertrophy, in such an instance, the obstruction and damage may be equally as great.

It is readily evident that if there be these various deviations from the normal, with corresponding variations in the modes of producing prostatic obstruction, then the *treatment* appropriate for the several forms of obstruction must be equally as variable. A mode of treatment or an operation appropriate for one of these several conditions cannot possibly be appropriate for all of them; and it is a short-sighted endeavor, to say the least, to search for a treatment or an operation capable of relieving all cases.

To illustrate: In case of obstruction from a large middle lobe, growing from the posterior commissure and falling into the outlet and plugging it up, like a ball-and-socket valve, as in Fig. 2, if we remove that lobe or plug we remove the cause of the obstruction and relief follows. But if, in the same case, we should make an electro-incision through the lobe, as is done in the Bottini or the Chetwood operation, we should have two lobes, instead of one, and the obstruction would continue to be as great as ever. No relief would follow that operation in *that* case. But suppose the condition is one

of contracture at the neck, one that is comparatively common these days. If we remove the prostate and yet leave the contracture, we do no good for the patient. The cause for the obstruction is still there, and may even grow worse after such an operation—a prostatectomy. But if, under these circumstances, we do the Chetwood electro-incision, dividing the ring of scar tissue surrounding the neck, we open up the outlet, remove the obstruction and make a permanently wide channel for the escape of the urine. That is "common sense;" and it is typical of actual experience. It explains why a certain operation is followed by relief in some cases and failure in others. It is not the fault of the operation but the misapplication of it. The operator is the one at fault, not the operation itself.

Now, how are we to arrive at a satisfactory conclusion on this point and make the selection of the treatment or the operation that is appropriate for each individual case? It must be remembered that not all cases of prostatic obstruction require operation, but that many of them, if taken in time, are definitely amenable to non-operative measures; many are permanently cured by non-operative measures.

The determination of these points must rest on an *accurate, complete, and analytical diagnosis of the various conditions prevailing*, local and general. Shortcomings in diagnosis are not compatible with success in coping with prostatic obstruction! To use sounds with no definite object, or to give urinary diluents—"urinary soothing-syrups" as they may well be called—in the hope that they may do some good in such cases, is like groping in the dark, while the enemy gains greater and greater advantage with lapse of time and involvement of additional territory. When the kidneys become seriously involved and damaged, our opportunity for

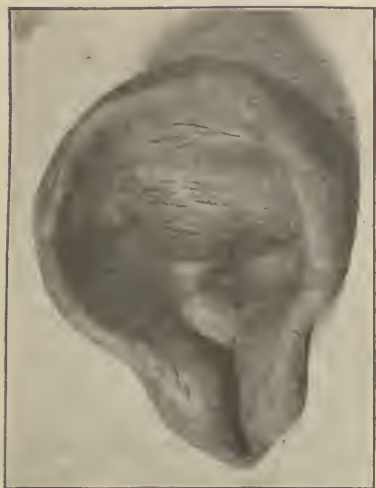


Fig. 5.
Pedunculated middle lobe.



Fig. 7.
Adenomatous nodules.

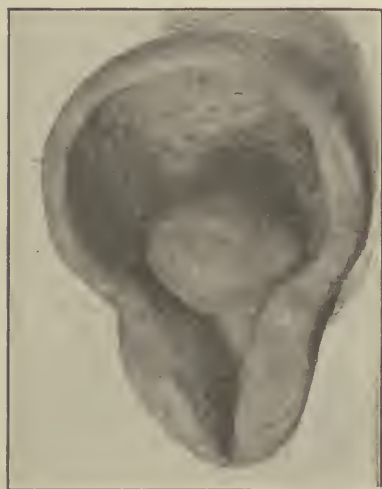


Fig. 6.
Extreme median hypertrophy.



Fig. 8.
Bi-lateral and median hypertrophy.

securing effective results is too often past. DIAGNOSIS is the thing to bring success and satisfaction to our endeavors in this work.

What does the term, diagnosis, embrace in this connection? A diagnosis of "prostatic hypertrophy," simply, amounts to nothing. Prostatic hypertrophy may or may not be accompanied with obstruction; and obstruction may or may not be accompanied by hypertrophy. Our diagnosis, in order to be of value, must determine the following points:

1. Is there hypertrophy or not?
2. Is there obstruction to the escape of urine?
3. The amount of that interference, if any?
4. The form, location and character of the obstructing factor?
5. The condition and functioning power of other organs of the patient, such as the kidneys and cardiac system?

If one, in undertaking this work, would do justice to it he cannot afford to neglect any one of these several features that should be embodied in his diagnosis.

The next question is, how are we to determine them? The answer is, by two methods of investigation: (a) By analysis of the history and symptomatology; and (b) by physical examination, the latter being by far the more important, reliable and instructive of the two.

It is scarcely desirable at this time to enter into a discussion of the symptomatology of prostatic obstruction, with which you who have practiced for any length of time are already familiar. It embodies the typical features of increased frequency of urination, more especially at night; the slow, sluggish stream, often of good volume but no projection or force; the feeling of unsatisfaction after urination and the tendency to go back and renew the effort, often with success; the experience that is often met with, of in-

ability to accelerate the stream by adding the pressure of the abdominal muscles, while the escape of the urine is rather facilitated by relaxation of strenuous endeavor, etc., etc.

But which of us can accept, as satisfactory and sufficient for differential diagnosis, the most typical and clear-cut history? Experience leads me to believe that no one accepts it as such; nor should it be accepted in that light. We might feel morally certain that such and such is the case, but we would hesitate, in this practical age, to base a major surgical operation or a final judgment on a moral certainty. I believe most of us are "from Missouri," when it comes to that.

What, then, is the evidence that enables us to definitely determine the points essential for the differential diagnosis of prostatic obstruction?

First Point: Is there hypertrophy? After the patient finishes his endeavor to urinate, in which the character of his stream is shown, insert the forefinger into the rectum and feel the prostate; learning whether it is large, globular, hard or soft, rugged or nodular or smooth or even, etc. While rectal palpation does not always give absolute information on this point, since an hypertrophy may tend rather toward the bladder cavity than toward the rectum, the information it gives is valuable in most cases and is not to be slighted.

Second point: Is there obstruction? and third point: The amount of obstruction? are both determined by the simple maneuver of inserting a catheter following the voluntary urination and rectal palpation above mentioned. The catheter draws off the urine that the patient has been unable to pass—the "residual urine," which, in a way, is a barometer of no mean value in estimating the seriousness of a given case of urinary obstruction. It varies all the way from one or two to forty odd ounces. It is much more reli-

able than a patient's own impressions as to whether he empties his bladder or not. I have met with several surprising results in this connection. A year ago a patient was brought by a doctor friend, both saying that lately a tumor had been making its appearance in the abdomen of the patient—a large, smooth, globular, painless tumor. It was declared that there was no difficulty or interference with urination; in fact, urination was *too free*, and the patient often had difficulty in holding urine until it was convenient for him to pass it. Palpation disclosed the large tumor, which filled the pelvis and reached almost to the umbilicus. The patient at first demurred to the insertion of a catheter, as being unnecessary and possibly provocative of disturbance; but when his fears were overcome and the catheter reached into the bladder and *drew off 43 ounces of residual urine*, a more astonished patient you never saw! And, meanwhile, the abdominal tumor had completely disappeared. It was simply a case of hypertrophied prostate with 43 ounces of obstruction and scarcely any symptomatology. It furnished another illustration of the unreliability of symptomatology.

Fourth point: The form and character of the obstructing factor? It is apparent that, while one may palpate a prostate through the rectum and discern a considerable enlargement of the gland when present, it is not possible for him by this means to perceive the difference in form and character such as are pictured in the accompanying illustrations. Other, more accurate, means must be employed. Fortunately, we have such at our disposal. By means of the modern cystoscope, with sheath and multiple telescopes (Fig. 12), we can observe all parts of the bladder and its contents, the retrospective telescope enabling the observer to look not only "around the corner," but also

backward, in his own direction, embracing the whole neck of the bladder and any prostatic projections that may be present. The views thus afforded of prostatic enlargements and deviations are surprisingly clear and demonstrative. This means is, indeed, the final arbiter in most cases, and for me is the deciding factor for determining whether suprapubic or perineal prostatectomy, or perineal prostatotomy or no operation at all should be chosen for the relief of a given case. The cystoscope also discloses the presence of calculi, if present; the existence of dilated ureteral orifices, of trabeculation



Fig. 9.

Immense bi-lateral and median hypertrophy.

and other evidences of backward pressure on the walls of the bladder, of cystitis, etc. Recently a patient was sent to me who had been previously operated on three times for prostatic obstruction, but who still complained of pain, excessive frequency of urination and incessant irritation. The cystoscope disclosed large masses of mucus, pus and phosphatic material in the bladder, that were undoubtedly the cause of perpetuating the inflammation and irritation prevailing. The removal of these, by non-operative

methods, resulted in prompt relief of the painful conditions that had persisted for five months after the final operation.

Fifth point in diagnosis: The condition of the kidneys and cardiac system? This is to be determined chiefly by meas-



Fig. 10.
Prostatic bar.

uring and examining the urine, and by physical examination of the heart.

If we make a complete diagnosis of the prostatic obstructive condition and select the appropriate measure for affording relief, but incidentally the patient dies of suppression of urine, from implication of the kidneys which had been overlooked, the success of our treatment is questionable. It's a case of "the operation was a success, but the patient died."

The recognition of the renal implication is the important requirement, because, if recognized it is surprising how largely amenable to treatment the kidneys show themselves, even when apparently seriously affected. Under proper preparatory treatment the amount of urine may increase from thirty to sixty ounces in twenty-four hours, and from being strongly albuminous and containing casts to a condition free from both of these pathological elements. The presence of

casts and albumin should not deter one from applying a needed operation in a case of prostatic obstruction, but it should put him on his guard and lead him to institute measures that will remove the danger which it portends—that of renal insufficiency or suppression. One of my cases of perineal prostatectomy, who has now been well and strong for five or six years, went through two severe attacks of uremic convulsions in the year preceding the one in which I operated on him. The removal of the obstruction led to the clearing up of the secondary implication of his kidneys and recovery of his health, which has been maintained to the present day.

Serious implication of both heart and kidneys does not necessarily interdict



Fig. 11.
Intravesical hypertrophy en collerette, showing ineffective result of electro-incision.

operative measures; it merely means that the operator must make his measures accord with the conditions and the resisting powers of the patient as he finds

them, fortifying these by ample preparatory treatment, and utilizing some mode of anesthesia other than chloroform or ether, if necessary, such as local or spinal anesthesia. Some of our most gratifying results have been attained under these unpromising conditions.

Such are the most prominent features connected with the subject of diagnosis. Their discussion has consumed so much of the space allotted to this paper that little is left for the topic yet to be considered, namely:

TREATMENT of prostatic obstruction. This may be classified as palliative and curative. The chief measures embraced under the first of these, palliative, are catheterization and vesical irrigation. They are strictly palliative and not curative, and need not occupy us to any extent here. They do not ward off the insidious attack of the kidneys, do not prevent the infection of the urinary tract and ordinarily do not effect anything more than temporary relief for a distended bladder. They only postpone the date of an operation, when one is required, and in postponing it possibly contribute to its seriousness when it becomes a matter of necessity, incapable of being put off any longer. There is no doubt about this phase of the subject: That the longer a necessary operation is put off, the greater the damage to involved kidneys; and this is the direction from which most of the danger comes. It is strictly the "postponed" cases of prostatic obstruction, the ones that have been palliated and trifled with by means of internal medicines and "washes," that produce the mortality attributed to these conditions. The cases that are taken in time, that are given the proper and efficient treatment due them, have practically no mortality; and even the various complications and accidents that were formerly considered inseparable from this work

are practically eliminated by early application of the required measures.

I believe that the most valuable service that catheterization and vesical irrigation can render, in a case of established prostatic obstruction, is to assist in improving conditions to a degree that permits the application of the *curative plan*, whatever that may be. And this, it must be remembered, does not necessarily mean an *operative plan*, since cases are restored in many instances by measures other than operative.

Ignoring, as unworthy of attention in this brief discussion, the many fads and freak methods of operation and treatment that have been submitted for the relief of prostatic obstruction, I will try to review in as few words as possible the curative methods that are most highly esteemed at the present day.

They may be classified as follows: A. Dilatation of the neck; B. Prostatotomy, (1) by the Bottini method, and (2) by perineal electro-incision; C. Prostatectomy, (1) by the perineal route, and (2) by the suprapubic route.

A. Dilatation is best applied by means of the Kollmann deep urethral dilator, the one with four strands to the shaft. Following the application of sufficient local anesthetic to deaden the sensitiveness of the posterior urethra (preferably, in my estimation, by means of my urethral tablet depositor (Fig. 12) and alypin tablets, each 1 1-8 grain), the dilator is introduced well into the neck of the bladder and then gradually opened until it is felt to meet with gradual increasing and firm resistance on the part of the contracted neck, whereupon the dilating is increased more slowly, the caliber of the instrument being watched as it is registered on the dial at the handle. An antiseptic irrigation of the tract, without catheter, should follow the dilatation. Such dilatations should be made at inter-

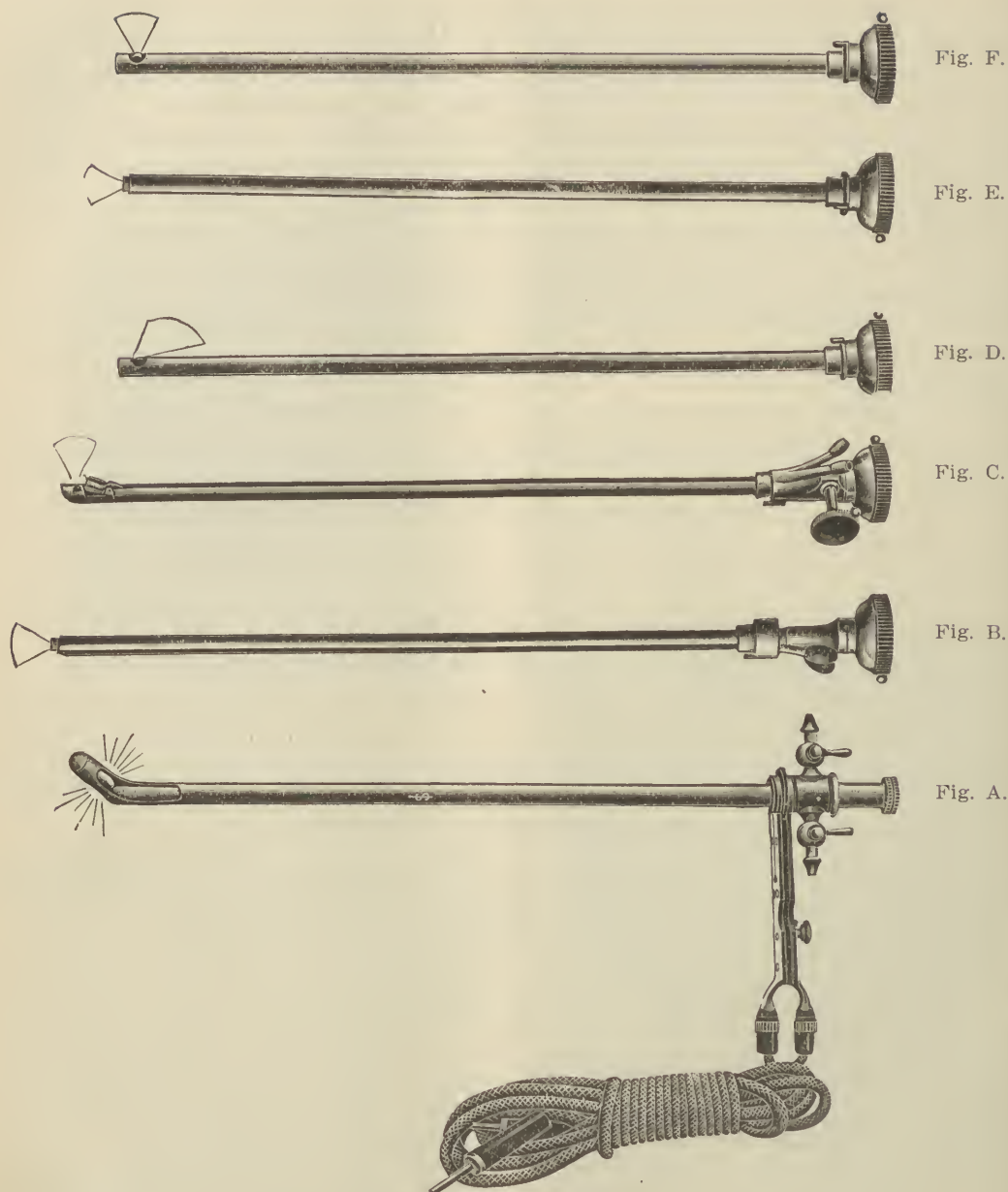


Fig. 12. The author's New Universal Cystoscope for the examination of the bladder and catheterization of the ureters.

A. The Bransford Lewis Universal Cystoscope; the sheath with illumination in all directions.

B. Direct catheterizing telescope.

C. Telescope for catheterizing the ureters by the indirect method.

D. Retrospective observation telescope.

E. Direct observation telescope.

F. Right-angle telescope (non-catheterizing).

vals of from three to five days, and should gradually be increased in the size attained. It can readily be conceived that they can prove beneficial to but one form of prostatic obstruction, that caused by contracture at the neck (Fig. 1); and that the permanency of their effects must depend largely on the character and age of the deposit that is causing the contracture: If old and dense, or contractile and resilient, their effect is but slight and evanescent; but if recent and in the formative stage, their effect may be so lasting as to properly be termed curative.

B. Prostatotomy. Electro-incision by the Bottini method has had its day, and is now scarcely ever mentioned with commendation. It is a "blind" operation, done at too great a distance from the hand of the operator, and it is not protected by direct accessibility in case of hemorrhage or sepsis. It has been supplanted by the safer and more satisfactory mode of electro-incision done through a preliminary perineal incision. Through this opening the finger is inserted, the local obstructing conditions attested and palpated, after which the electro-cautery (Chetwood's) is introduced through the same opening, is hooked over the structure that is to be incised, the current is turned on until the blade assumes a bright red hue (intensity previously adjusted), when it is drawn forward in the slot of the instrument, at the same time burning a deep groove through the prostatic tissues with which it comes in contact. This groove is usually made through the posterior part of the neck; it may be repeated at some other point if found desirable to secure more room.

Like the dilating method, this one is particularly appropriate for the contracture at the neck, and is not at all serviceable for the hypertrophic outgrowths from the prostate. Conversion of one lobe into two lobes, of an hypertrophied pros-

tate, contributes nothing to the ease of escape for the urine; but a deep groove burned through a dense ring of fibrous connective tissue surrounding the neck opens up and permanently increases the caliber of that orifice. Indeed, care must be observed lest this object be not over-attained and too free escape be secured. I may say, however, that in the cases in which the pendulum had been swung too far in this direction, in my practice, it has been readily overcome by injections of paraffine into the deep urethra underneath such a groove, filling it up again to a certain extent and bringing about a compromise condition that has been satisfactory in every respect.

C. Prostatectomy. I shall not consume your time by describing the operations of perineal and suprapubic prostatectomy, as their main features are familiar to everyone doing this kind of surgery. They are simply two different modes of accomplishing the same effect, the removal of the hypertrophied prostate. There are advantages and disadvantages pertaining to each of them. In choosing between them the surgeon should be influenced, not by the ease of executing the operation, nor by any hobby or fad that may be popular at a given time, but he should be *governed solely by the interests of the patient*. This demands that he should be unbiased in his estimate of the two operations, and that he be capable of performing them both with equal ease and confidence.

Of the two, the suprapubic is the easier of execution for the surgeon and is freer from the danger of such complications as wounding of the rectum, rectal fistula, etc. But the convalescence from the perineal operation is much more comfortable to the patient, less irksome from the standpoint of drainage, and the period for remaining in bed is shorter for him. Statistics have shown that the mortality

following the perineal operation is distinctly less than that for the suprapubic. In a relatively thin subject, rendering the prostate accessible and under easy control, the perineal operation encounters no difficulties from anatomical conditions; but in the corpulent individual, with the prostate situated high up in the pelvis, it is rendered much more difficult

tact. But the decline in sexual capacity is so closely associated, in many of these cases, with the advanced age of the individual, that it is not always clear as to just how much is due to that fact and how much to a given operation. There are not a few cases in whom the sexual function is considerably increased after the operation, coincident with restoration



Specimens of hypertrophied prostates removed by operation.

of accomplishment, and such conditions favor the choice of the suprapubic route. Although the fact has not yet been settled by records, it is probable that a more deleterious influence is exerted on the sexual function by the perineal than by the suprapubic operation—even including the so-called conservative perineal operation of Young, in which an endeavor is made to preserve the ejaculatory ducts in-

of general health, strength, comfort and well-being. Two of my patients have told me lately that they were "better" in that respect than they had been for many years previous to the operation that were performed.

Before closing I should like to briefly mention a few cases illustrating some of the points taken up in the foregoing: The prompt and satisfactory results secured

by the adoption of the several different modes of treatment mentioned, as dependent on the analytical diagnoses arrived at.

Mr. George F——n, of Roanoke, Mo., 66 years of age, a gardener by occupation, was brought by Dr. Hawkinson, of the same place. This patient had for several years disregarded the accumulating evidences of urinary difficulty, pain and frequency, relying on internal medicines and time to relieve him, until in the early part of January, 1909, when he became unable to urinate at all—complete retention developing rather suddenly. His nearest physician was called, sought to introduce a catheter, but failed. Prolonged efforts by other physicians of the same vicinity were alike unsuccessful, and so, also, were the efforts of Dr. Hawkinson and others at Roanoke. Three days went by with the patient enduring this condition, his bladder tensely filled with urine, stretched to the umbilicus, and none passing except a few drops at a time, that were squeezed out involuntarily by the irresistible contractions of the detrusor muscles of the bladder, coming on at irregular intervals, irrespective of the patient's convenience or location. Such was his condition when he arrived on an early morning train, of January 28th, under the conduct of Dr. Hawkinson. To say that his plight was pitiable, expresses it but mildly. He groaned continually in agony.

This patient went through the preparatory and operative treatment selected (perineal prostatectomy), was up and walking within a week afterward, was urinating voluntarily through the urethra by the eleventh day, with the perineal wound almost closed; and he departed, practically well, within twenty-five days from the time of his arrival. He has been well of his urinary impediment since that time.

Case 2. Mr. C. L. M——r, 60 years of age when he consulted me, in July, 1906, referred by Dr. Harnisch, of St. Louis.

For more than a year previously the patient had noted increasing difficulty and frequency of urination; that it took a longer time for starting and completing the act; and that there were spasms and severe pains connected with it. In March, 1906, Dr. Harnisch had instituted the regular use of the catheter, which the patient had found necessary to continue two or three times a day ever since, and to which were added boric irrigations twice daily. But these measure had given no definite relief. There were six ounces of residual urine, which was infected, purulent and irritating. The introduction of the catheter was becoming more difficult and painful all the time. Examination developed the diagnosis of intravesical enlargement of the prostate, although no hypertrophy could be felt per rectum. The cystoscope disclosed the outgrowths from the prostate, and also two stones in the bladder. After three weeks of preliminary treatment, perineal prostatectomy was carried out, and the accompanying stones and specimens of prostatic tissue were removed. The usual after-treatment was adopted: Irrigation-drainage by means of the double rubber tube through the perineal wound, which tubes were removed on the fifth day, after which there was voluntary urination through the urethra; on the seventh day the patient was walking around; and on the thirteenth day he went home, practically well, with the wound closed. He has recovered his health and vigor, and has again taken up his regular employment with satisfaction and success.

Case 3. A case that for the number, difficulty and seriousness of its complications is not easily matched, was that of a townsman of Fort Smith, Mr. A. B., who came to me in February of last year, suf-

fering severely from the effects of hypertrophic obstruction. He was then 71 years of age; was extremely debilitated in general health, was the subject of a heart lesion, of double inguinal hernia, with occasional incarceration and obstruction of the bowel, colic and systemic disturbance; and the kidneys showed their involvement in the urinary disturbance in the presence of albuminuria and casts. Because of these several factors bearing directly on the case, it was far from promising. Nevertheless, there were twelve ounces of residual urine all the time, and positive evidence of increasing seriousness in the conditions, both local and general, and something effective had to be done. He was given various measures of preliminary treatment, including the retained catheter and periodic irrigations of the bladder, tonics and internal antiseptics. In order to meet all of the many requirements of the case, and yet avoid doing too much, was like steering between Scylla and Charybdis; but it was accomplished, in a way, and he went through the operation of perineal prostatectomy on February 17th, 1909, standing the ether anesthesia given by Dr. Leighton surprisingly well. The after-conduct was involved in difficulties relating chiefly to the complicating factors already mentioned, of the abdomen, the heart, of the digestion, together with a superabundance of nervousness and anxiety, but with very little disturbance so far as the urinary apparatus was concerned. The patient was walking around on the eighteenth day and thereafter until a moderate attack of epididymitis retarded his progress for a week or more; after which his recuperation was rapid. He left for his home on March 21, five weeks after his arrival; and was then able to pass a good, strong stream, and to completely empty the bladder without effort. I understand that his further progress has been satisfactory,

and that his general health has been much improved since that time.

The notes of a recent case from Ft. Smith, kindly referred by Dr. St. Cloud Cooper, may be of interest as, no doubt, many of you are acquainted with his very interesting personality, if not with the circumstances of his malady: That of Judge J. F. R., lawyer, age 56, whose prostatic obstruction, as shown by cystoscopy, came from intravesical hypertrophy, more especially of the right lobe, but also including the whole circumference on the internal orifice. These were all removed, on February 17th, through a perineal inverted U incision, and are shown herewith. The drainage tubes were removed on the second day, and the patient was up and walking about on the sixth; and on the seventh, when the perineal wound was closed by slight pressure with the finger, as fine a stream, I suppose, as there is in Fort Smith, was exhibited. The further progress has been satisfactory, and I was afforded the pleasure of having the patient accompany me on my trip here last evening. All that will be necessary for him to do now will be to give the bladder an occasional irrigation without a catheter, with some mild antiseptic solution, for its tonic effect on an irritated membrane. There is no further obstruction; the bladder is emptied completely at each urination, and the stream is free and easy. The prostatic specimens removed are shown herewith.

DISCUSSION ON THE PAPERS OF DRS. BURCH, LIVERMORE AND LEWIS.

DR. S. R. MILLER, Knoxville: The general practitioner comes in contact with few of these cases of hypertrophy of the prostate as compared with the specialist. We have had the same experience, however, as the specialist and that is the operative treatment is as a rule very satisfactory while the palliative treatment is extremely unsatisfactory. I have had the good fortune not to come in contact with

the more difficult cases, and particularly the cases spoken of by Dr. Lewis. All of the unsatisfactory cases that I can recall were those in which there was decided enlargement of the prostate, and refused operations were referred to some one else for palliative treatment because I do not like to carry out that treatment myself, preferring to operate on these cases. When these patients submit to operation, the results have been very satisfactory.

A good deal has been said by one of the essayists on the question of massage, but I do not think Dr. Lewis in his paper mentioned it. I would like to ask Dr. Lewis in closing the discussion to give us the benefit of his experience with reference to this particular line of treatment. I have tried it very little indeed, and in the few cases in which I have tried massage I have not obtained good results.

A good many may be misled in the diagnosis of these cases, by rectal examination. I think in the vast majority of cases a diagnosis can be made in the average sized individual by rectal examination if the patient is not too sensitive. If we can make the patient submit to the most rigid examination, through the rectum, with the finger, we can detect many of these growths even though they are in the bladder. We cannot always bring out these fine points in diagnosis to which Dr. Lewis has referred, but we can tell that there is a decided growth and that the growth comes from the region of the prostate gland. Of course, if we are master of the cystoscope, we can judge as to our finer diagnosis, but even if we are not accustomed to making examinations with the cystoscope we can do it satisfactorily oftentimes with our finger. If we have a slight practice with the cystoscope we oftentimes cannot distinguish these growths from a growth that springs from the bladder and has no connection with the prostate gland.

Another point I want to emphasize which was mentioned by Dr. Lewis, is the unsatisfactory evidence of a patient having emptied the bladder. Just on that point I find we can oftentimes bring the patient to agree to an operation much quicker by pointing out to him the fact that the bladder does not empty itself. After he voids the urine, introduce a catheter and sometimes it is necessary to have the patient change his position in order to get all of the residual urine. A case I had recently had to be catheterized quite frequently. The patient said the bladder was empty, but

by the use of the catheter and sometimes by changing his position I could frequently get three or four ounces of urine after he had finished. In this case the prostate was quite large. The operation consisted in removing three lobes and the result was very satisfactory.

DR. J. A. CRISLER, Memphis: Not having received a program of the meeting, I had no idea we were going to be treated with such an abundant feast by such eminent gentlemen. Unfortunately I did not hear Dr. Burch's paper, and, therefore, cannot discuss it. I regret this exceedingly because it is my loss.

I was particularly interested in what Dr. Lewis had to say concerning the examination of the prostate and the conditions in the bladder prior to the operation in these obstructive cases. I think we all can fully agree with him that we should speak of it as an obstructive prostate and not merely as an enlarged prostate, for many enlarged prostates do not cause obstruction. While we are on this point I want Dr. Lewis to tell us a little more in closing the discussion about the possibilities of the use of the cystoscope, he being himself perhaps one of the most eminent cystoscopists in this country, and I think we would enjoy something from him along that line. In the cases I have had in my professional career, probably less than forty, I have been unable in most of the cases to pass any kind of instrument into the bladder. These cases come to the surgeon after they have advanced to a point where there is no possible way for the doctor in charge to draw off the urine. That is the general rule.

I had a case only about twelve days ago in a man seventy-three years of age whose prostate is evidently malignant, and upon whom there had been done two or three suprapubic tapplings with trocar and cannula in order to relieve the urine, and I found at the operation that his prostate was so large it had so completely occluded the urethra until it was an impossibility to have passed anything larger than a small filliform guide. Young lays great stress upon the use of the cystoscope and I am sure there must be a great deal in it, but I am also sure that if you take it out of the hands of men like Lewis and Young, who make a specialty of examining the bladder and determining the diagnosis in these cases, and place it in the hands of the general surgeon we will, as a

rule, have the bladder wall damaged or the urethra or prostatic substance damaged in such a way as to get a troublesome hemorrhage. I think in the average case and in the hands of the general surgeon the use of the cystoscope is quite impracticable, to say the least.

Dr. Lewis has also pointed out that we should give these patients careful preliminary treatment, and I would like to ask him to point out a little more clearly on that score as to what he aims to do by preliminary treatment. Young lays a great deal of stress on draining the bladder by catheter for several days beforehand. I believe we all agree that the old fear of catheterization is not near so dangerous as we had once thought and that the residual urine, that the retention is, after all, the most dangerous factor that we have to encounter from the prostate *per se*. All of us must agree fully with Dr. Lewis when he says that we ought to make a careful diagnosis and a careful examination of the patient prior to operation, but when we come to think about it a large number of these old men are over seventy years of age; a number of them have bad hearts; a great number of them have ordinarily some albumin and casts in the urine and the urine is so ammoniacally decomposed that naturally a careful examination should be made. These old men deserve surgery, because the mortality is practically smaller probably in the aged than in any other operation done on old men. Certainly the mortality is a great deal less than simple amputation, probably less than ordinary appendectomy. They seem to have gotten some sort of ability or auto-protection to withstand this sort of punishment.

DR. JOHN L. JELKS, Memphis: There is one phase of this subject that has not been touched upon, but which I think is worthy of your consideration. Some years ago I called attention to the fact about which I will speak before some medical society, and the article was published in the *New York Medical Journal*, concerning a sacculated condition of the anterior wall of the rectum in many cases of prostatic enlargement and irritability. As a matter of fact, in a great many of these cases of elderly men with prostatic enlargement, there is a hemorrhoidal tumor or a marked vascular pathology and sacculated condition in this anterior quadrant of the rectum. Examine, if you will, through the proctoscope or speculum, and that alone will demonstrate to you

a marked vascular derangement there. Then, if you please, get the anatomy of these two structures or parts clearly before your mind's eye. The same vascular main trunks supply both the rectum, the anal canal and the prostate. There you have the anastomosing blood vessels; there you have the same nerve trunks supplying their branches to these two structures, and if you have irritability of the prostate, or, on the other hand, if you have rectal irritation, or a hemorrhoid, or ulceration, you will most surely have trouble in the other organs. Therefore, having observed this condition so carefully I planned an operation for its relief which I have termed anterior proctorrhaphy and coined the word to describe the operation, which consists of catching up the anterior wall of the rectum, which was sacculated, and producing a similar effect upon the male bladder as would be produced on the female bladder when you perform anterior colporrhaphy.

I have observed that many of these old men upon whom I have operated did not have a marked fibrous or interstitial infiltration of the prostate, but an enlargement, nevertheless, a boggy condition, if you please, with irritability, and a great deal of residual urine, but not all of these processes have taken on the process of prostatic fibrosis. These cases were relieved, practically all of them, of that condition and of all their symptoms. Therefore, I consider this operation worth mentioning, and would urge that before you institute such major surgery as has been referred to, namely, prostatectomy, that you examine the rectum and perchance in many of these cases in conjunction with or after prostatic massage and applications of forty grains of nitrate of silver through a swinborn tube to the inflamed surface of the prostatic urethra you will produce marked effects in many of them and with cold water irrigations of the rectum you will get rid of the great vascular oversupply to these structures. If, then, you shall not have succeeded as you would like to have done, perform, in selected cases, anterior proctorrhaphy, and I want to say to you that my results from this operation have exceeded my fondest expectations.

DR. E. H. MARTIN, Hot Springs, Arkansas: I have enjoyed these three papers very much, but I do not propose to discuss the surgical aspect of prostatic hypertrophy. I merely want to say that Dr. Livermore mentioned in dis-

curring chronic prostatitis that these patients will complain of pain in the limbs. I do not think he went far enough in this respect. I think the disease which we ordinarily know as chronic gonorrheal rheumatism is due very largely to prostatic disease. The proof of this is that we have had a great many cases in men who have never had gonorrhea. We never see it in women and they have no prostates. The fact is that very often in these cases the prostate is entirely overlooked when men come to us with a characteristic history of pain in the bottom of their feet, pain across the feet, pain down the leg with involvement of an ankle or foot. When such a case presents itself we say at once that it is very probably gonorrheal rheumatism, and still the man may not have had gonorrhea. In these cases if we make a careful examination of the urine and find no gonococci, the treatment then is continued merely for the rheumatic symptoms and the man does not get well; whereas, if we should take that case and pass sounds and massage the prostate regularly he will get well. It is not a gonococcal rheumatism, but a prostatic rheumatism and occurs from any inflammation of the prostate whether of gonorrheal origin or not. I have asked many doctors whether they have seen similar cases in women and they always say they have not.

DR. RICHARD A. BARR, Nashville: My experience has been rather limited in prostatic work, but it has been such as to make me especially appreciative of Dr. Lewis' paper. I was glad to hear him emphasize prostatic obstruction as contrasted with prostatic hypertrophy. I have treated three or four cases with marked prostatic obstruction without any hypertrophy.

I was also glad to hear him emphasize the fact that physical examination is worth a great deal more than the symptoms in the diagnosis of bladder conditions in general, and I believe if a man is to do bladder and prostatic surgery it is essential for him to have special training and special ability in the use of appliances, particularly of the cystoscope. Of course, circumstances will arise in which it is more or less necessary for a man engaged in general practice to have experience in cystoscopic work in order to do this surgery, but it is a special field of work, and if a man is going to do it it behooves him to be well equipped to make the proper investigation. There are occasionally

cases in which it is practically impossible to use the cystoscope or any other instrument. In cases of that kind, especially when the urine is in the condition that has been described, it is a good routine procedure to make a suprapubic cystotomy under local anesthesia before proceeding to do anything more serious in the way of surgery. You make cystotomy for drainage of the bladder and for a more thorough investigation of the condition of the prostate.

While I have not had any experience myself with cancer of the prostate, I have seen the mistake made by a man engaged in general practice to have experience in cystoscopic work in order to do this surgery, but it is a special field of work, and if a man is going to do it, it behooves him to be well equipped to make the proper investigation. There are occasionally cases in which it is practically impossible to use the cystoscope or any other instrument. In cases of that kind, especially when the urine is in the condition that has been described, it is a good routine procedure to make a suprapubic cystotomy under local anesthesia before proceeding to do anything more serious in the way of surgery. You make cystotomy for drainage of the bladder and for a more thorough investigation of the condition of the prostate.

While I have not had any experience myself with cancer of the prostate, I have seen the mistake made by a surgeon who operated for cancer of the prostate, but the condition was one of simple hypertrophy, simply as a result of careless investigation, and I think we are all prone to jump to a conclusion, especially when a man is past sixty years of age and has urinary trouble, and if he has any residual urine, that he has an enlarged prostate and needs prostatectomy. As these patients do not stand instrumentation very well on account of their age and weakness, they need the services of a skilled surgeon. The average practitioner is probably a little unskilled in the use of the cystoscope and other instruments, and he goes ahead and starts in to do a prostatectomy without investigating the cause as carefully as he should do. Every case of this kind should be submitted to a careful investigation, if possible, more particularly a thorough physical examination, and unless a man is thoroughly qualified to do good work in this line he should not attempt it except in cases of emergency in my opinion.

DR. J. W. HANDLEY, Nashville: I want to say a word or two with reference to incontinence of urine which follows operation for the removal of the prostate. With regard to prostatic obstruction and prostatic hypertrophy I must say that the beautiful results which have been depicted here have not been seen in my experience and observation in this class of cases. I have had occasion to see quite a number of cases of prostatic obstruction and prostatic hypertrophy, and some of them have been followed by incontinence which has lasted sometimes three or four and even five or six months after operation, necessitating the wearing of a rubber urinal. I do not like to see this subject brought before the association in such a flattering light, or before the public, leading them to think that when a man is operated on for the removal of enlarged prostate he will be well in thirty days and be able to pass his urine in a normal way. I do not believe many of these patients do. A number of them have incontinence which remains indefinitely.

DR. BURCH (closing the discussion on his part): There is nothing further I care to add. I would like, with your permission, Mr. President, to give my time to Dr. Lewis, so that he may have ample opportunity to explain to the society the use of the cystoscope or anything else he cares to bring up.

DR. LEWIS (closing the discussion): In the first place, I wish to thank Dr. Burch for giving me his time. In my study of this subject I have gone at it very much like a carpenter or plumber goes at his work. We can evolve very beautiful theories on the subject of prostatic obstruction, but theories do not count in the removal of the obstruction. If a plumber is called to a house on account of one of the sewers being blocked up, he might say we can go underneath and lift up the whole sewer and in that way bring about siphonage and establish drainage, but the more practical plumber may find that it is only necessary to remove a brick or two and effectually dispose of the obstruction. So in prostatic troubles we should seek to remove the obstructing factor.

Dr. Miller asked with reference to the use of massage in connection with prostatic obstruction. In answer to this question I would refer you to the drawings indicating the different forms of prostatic obstruction. I do not think the use of massage would effect re-

duction in any of these large prostatic hypertrophies. I do not think the mechanical effect of massage of the prostate will reduce them to a condition of innocuous desuetude, whether it was used for six months or six years.

If the obstruction is produced by a simple inflammation and infiltration, then massage is one of the approved methods of treatment and will probably prove successful. If there is a ring of cicatricial tissue surrounding the neck of the bladder you can massage the prostate until doomsday and you will get no relief.

With reference to the operation described by Dr. Jelks, it strikes me the elevation of the floor of the outlet is just the opposite of what is desired.

In most cases the obstructive factor comes from the prostatic floor which is elevated by means of a prostatic bar or median posterior enlargement. A plumber would lower the channel, or if there is no elevation there, lower the outlet by severing posteriorly the contracture at that point.

With regard to some other questions that were asked, one with reference to rectal examination for diagnostic purposes, I admit that rectal examination or palpation may indicate whether or not there is enlargement toward the rectum of the prostate, but I do not believe that intra-vesical enlargement can be detected in that way.

Cystoscopy has both its limitations and its advantages. The cystoscope clearly shows the form of the obstruction but cannot tell you whether there are three ounces of residual urine or thirty ounces, and it will not tell the amount of obstructions. There is one step that tells about the amount of obstruction and that is the use of the soft rubber catheter. You have the patient pass all the water he can, you put in a soft rubber catheter and you drain out three ounces or forty ounces of the residual urine. In one case I drained off forty-three ounces of residual urine when the patient thought he had no urine left in the bladder.

The cystoscope cannot be pushed through a tightly contracted prostatic urethra which is the seat of cancer. I would not advise its use in such cases. If the cancer does not prevent the introduction of the cystoscope I would use it, because it tells whether the bladder itself is involved and how much, and whether the case is going to be appropriate for the removal of the prostatic cancer or not. The

cystoscope has its definite purpose in this diagnosis.

A year or two ago I was invited by a surgeon to see him make a suprapubic cystotomy. He explained to me that he had done a perineal prostatectomy on the patient three weeks before, but did not succeed in removing all the obstruction. He made a suprapubic cystotomy and found a stone which he did not know was there. He had not made a cystoscopic examination. If he had done so the stone would have been recognized and one operation would have been sufficient both for the removal of the prostate and the stone in the bladder.

Dr. Crisler spoke of the difficulty of introducing not only the cystoscope into these prostatic obstructive bladders, but of introducing a catheter for withdrawing urine. There is one feature in prostatic catheters that costs little but is worth much. The ordinary curved instrument, instead of going in and overriding those projections which come up from the posterior commissure, butts up against them

and is prevented from entering. Increase and accentuate the curve and it will go in easily.

That was an interesting observation Dr. Crisler made with reference to the relatively lessened mortality in the aged from surgery of the prostate as contrasted with general surgery.

In regard to the remarks made by Dr. Handley, as to incontinence, I would not like the gentlemen here to get the impression from my short presentation that complete successes follow in all cases. It was not my endeavor to make such a claim, but to present to you the practical phases of this subject in connection with diagnosis and treatment. There are certain cases in which incontinence follows, and there used to be others in which urethro-rectal fistulas occurred, but there need not be any more of these if the operation is properly performed. If you take them early, bring back the muscular support (levator ani) to the perineum, you will get no urethro-rectal fistulas. Incontinence is avoided by avoiding injury to the sphincters.

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A. M. A.

Sixty-First Annual Session of the A. M. A., Held at St. Louis, Mo., June 6-10, 1910.

[Last month we gave a brief outline of the meeting of the A. M. A. We herewith give additional information concerning the meeting taken from an abstract of the proceedings, furnished by the Secretary. The registration was 4,070, being the third in point of registration in the history of the Association. The object of publishing this abstract is to acquaint the profession at large with the character of the work carried on by the American Medical Association and to let it be known that all the important problems relating to public health, legislation and education are questions of vital importance in the work of this body. Every physician in Tennessee, who is eligible, should join the A. M. A.—Ed.]

THE House of Delegates met on Tuesday afternoon with the newly-installed president, Dr. William H. Welch, in the chair. Dr. Frank B. Wynn, Indiana, presented the report of the Committee on Scientific Exhibit, recommending the preparation of cheap, compact and complete exhibits for the education of the public on all the problems of public health and comfort. Dr. Alfred Stengel, Pennsylvania, presented the report of the Committee on Scientific Research, showing that three

grants of \$200 each had been made for the current year, as follows: Dr. R. M. Pearce, New York; Dr. Gerald B. Webb, Colorado, and Dr. E. C. Rosenau, Chicago. The Committee on Organization of a Council on Health and Public Instruction recommended that the Committees on Organization, Medical Legislation, Public Instruction and Defense of Medical Research be abolished, and that a Council of five, to be known as the Council on Health and Public Instruction, be created. The report was referred to the Reference Committee on Amendments to the Constitution and By-laws. The Reference Committee on Sections and Section Work reported, recommending the organization of a Section on Genito-Urinary Diseases with the following officers to serve during the coming year: Chairman, W. T. Belfield, Chicago; Vice-Chairman, James Pedersen, New York; Secretary, Hugh Young, Baltimore. The Committee recommended that sections on Physical Forces in Medicine and on Hospitals be not established at present. The report was adopted. The Reference

Committee on Medical Education endorsed the work of the Council on Medical Education and recommended that the rating and classification of medical schools, as determined by the Council, should be made public, and that the Council should be instructed to continue its investigations. The classified list of colleges was presented as a part of the committee's report.

The Reference Committee on Reports of Officers recommended that the request of Dr. Simmons regarding his resignation as General Secretary be respected, and that his resignation be accepted in order that he might devote himself exclusively to the duties of editor of *The Journal* of the American Medical Association. This report was adopted. The Reference Committee on Miscellaneous Business recommended that the reports of the Committees on Pharmacopeia, Nomenclature and Classification of Diseases, and Miscellaneous Business be accepted and the committees continued. Dr. J. N. McCormack presented the report of the Committee on Organization, reviewing the work done for a department of public health, and presenting the following resolutions:

Resolved, That the President be, and is hereby, authorized to appoint a committee of seven members, which shall be charged with the duty of framing a bill for a national Department of Health, to be presented to the next session of Congress in December, and that this committee shall consider and determine all matters and policies relating to national health legislation, and may invite the coöperation and coöperate with other organizations having the same purpose in view.

Resolved, That the principles of the Owen bill, having for its object the creation of a national Department of Health, now pending in the Senate, and similar bills introduced in the House by Representatives Simmons, Creger and Hanna, be, and are hereby, heartily approved by this Association, and the cordial thanks of the medical profession of the United States, officially represented by it, are hereby tendered to Senator Robert L. Owen, Irving Fisher and their co-workers for their able and unselfish

efforts to conserve and promote the most important asset of the nation, the health and lives of its women, its children and its men, properly understood the greatest economic question now confronting our people.

The members of this Association stand for pure food, pure drugs, better doctors, the promotion of cleaner and healthier homes, and cleaner living for individuals, for the State and for the nation. We believe this to be held as equally true by the reputable and informed physicians of all schools or systems of practice.

We welcome the opposition of the venal classes long and profitably engaged in the manufacture of adulterated foods, habit-producing nostrums and other impositions on the people—to the extent of hundreds of millions of dollars annually—and express our sympathy for the well-meaning men and women who have been misled and worked into hysterics by the monstrously wicked misrepresentations of a corrupt and noisy band of conspirators and who are being used as blind instruments to enable them to continue to defraud and debauch the American people.

Medical science is advancing, especially on its life-saving side, with a rapidity unknown to any other branch of human knowledge. It is known of all men that our members in every community in the United States are unselfishly working day and night, instructing the people how to prevent tuberculosis, typhoid fever and the other diseases from which physicians earn their livelihood. Therefore, we welcome and will wear as a badge of honor the slanders of these unholy interests and their hirelings.

These resolutions were later on unanimously adopted by a rising vote.

Dr. T. D. Tuttle, Montana, moved the appointment of a committee to prepare suitable resolutions in regard to the death of Dr. Ricketts, after which the House of Delegates adjourned until Wednesday afternoon.

At the Wednesday session, Dr. Rosalie Slaughter Morton, New York, was granted the privilege of the floor to present the report of the Public Health Education Committee. The Reference Committee on Legislation and Political Action commended the work of the Committee and Bureau of Medical Legislation, and rec-

commended that Dr. Reed's resignation be accepted with an expression of appreciation of his untiring, loyal and faithful services. The Reference Committee on Hygiene and Public Health commended the work of *The Journal* in the direction of a sane Fourth of July. The Reference Committee on Reports of Officers submitted a supplementary report on Dr. McCormack's work, endorsing his recommendation of the appointment of a special committee of seven charged with the framing of a bill for a National Department of Health to be presented to the next session of Congress. Following the adoption of this report, Dr. Guthrie, Pennsylvania, moved the adoption of the resolution presented by Dr. McCormack. This motion was unanimously carried. The Committee on Awards recommended that a gold medal be given to Dr. Claude A. Smith, of Atlanta, Ga., for an exhibit of experimental researches on Hookworm Disease, and that certificates of honor be awarded to the following exhibitors: University of Minnesota, St. Louis University, St. Mary's Hospital (Rochester, Minn.), St. Louis City Hospital, Indianapolis Department of Public Health, University of Michigan, Dr. Honwink, St. Louis, Special Committee on Prevention of Blindness; New York; Northwestern University, Chicago; St. Louis Medical History Club. The following resolutions were then presented and adopted regarding the death of Dr. H. T. Ricketts:

WHEREAS, Howard Taylor Ricketts, a member of the American Medical Association, lost his life on May 3, 1910, from typhus fever, contracted while engaged in an investigation of that disease in the City of Mexico; and,

WHEREAS, He sacrificed himself in the study of a preventable disease and in the interest of the health and lives of the human race; and,

WHEREAS, His masterly attainments as a scientific worker in this and other fields rendered his life of inestimable worth to the med-

ical profession and the world at large; therefore, be it

Resolved, That the American Medical Association, in convention assembled, herewith express its high appreciation of the ideals, the efforts and the achievements of this brilliant investigator, and its deep sorrow at the loss of a most valued and cherished member; and

Resolved, That we herewith express our sorrow in the death of Dr. Conneffe, of Ohio, who lost his life as a result of infection with typhus fever while working with Dr. Ricketts in Mexico City; and

Resolved, That these resolutions be spread on the minutes of this Association and published in the *Journal*.

After the election of a number of associate members and the presentation of miscellaneous resolutions, which were referred to appropriate committees, the House adjourned until Thursday morning.

A special meeting of the House was held on Thursday morning to consider the report of the Reference Committee on Amendments to the Constitution and By-laws. A large number of amendments, consisting mainly of verbal modifications, were adopted. The last meeting of the House of Delegates was held on Thursday afternoon, the election of officers being the first order of business. The following officers were elected: President, Dr. John B. Murphy, Chicago; First Vice-President, Dr. E. E. Montgomery, Philadelphia; Second Vice-President, Dr. R. C. Coffey, Portland, Ore.; Third Vice-President, Dr. W. C. Moore, St. Louis; Fourth Vice-President, Dr. H. L. E. Johnson, Washington, D. C.

When nominations for General Secretary were called for, Dr. I. C. Chase, of Texas, nominated Dr. Simmons for reelection in a speech which invoked repeated rounds of applause. In spite of the fact that his resignation had been presented and accepted, it was evident that the House of Delegates was determined to reelect him. After a large number of dele-

gates from different States had expressed their views, Dr. Simmons was unanimously reelected. Dr. Frank Billings was nominated for reelection as Treasurer by the Board of Trustees and was elected. The following trustees were then elected to serve until 1913: Dr. W. W. Grant, Denver, Colo. (reelected); Dr. G. E. Cantrell, Greenville, Texas (reelected); Dr. Frank J. Lutz, St. Louis, Mo. The President appointed the following as members of standing committees, the appointments being confirmed by the House of Delegates:

The Council on Medical Education: Dr. George Dock, St. Louis, to succeed Dr. E. E. Southard, to serve until 1915.

Council on Health and Public Instruction: Dr. H. M. Bracken, Minneapolis, to represent public health; Dr. W. B. Cannon, Boston, to represent defense of medical research; Dr. Henry B. Favill, Chicago, to represent public instruction; Dr. J. N. McCormack, Bowling Green, Ky., to represent organization, and Dr. W. C. Woodward, Washington, D. C., to represent legislation.

The Reference Committee on Sections and Section Work recommended the election to honorary membership of Dr. Alfred Saenger, Hamburg, Germany; Mr. J. Herbert Parsons, F. R. C. S., London, England, and Dr. James H. Honan, Berlin. The Board of Trustees reported regarding the publication of special journals on surgery and pediatrics, and after extended

discussion the matter was referred back to the Board with full power to act.

Invitations for 1911 were presented from Los Angeles, Cal., and Buffalo, N. Y., and, on ballot, Los Angeles was chosen—61 to 58.

The Reference Committee on Hygiene and Public Health presented a report condemning the multiplication of optometry boards and the appointment of non-medical and unqualified persons thereon, recommending the formation of a committee on the prevention of blindness and authorizing the appointment of a committee to coöperate with the Department of Commerce and Labor with a view to establishing proper visual standards and tests for pilots. Following the adoption of resolutions of thanks to the Missouri State Medical Association, the St. Louis Medical Society, Governor Hadley, Dr. Dorsett and his local committee of arrangements, the House of Delegates adjourned *sine die*.

The attendance of the House of Delegates was large, 133 delegates being registered. An enormous amount of legislative work was done, the bulk of which was transacted in committees. The revision of the constitution and by-laws and the reorganization of the standing committees will greatly strengthen the work of the Association and increase the possibilities for improved work. Taken as a whole, it was one of the most important sessions which the Association has held, and the prospects for the coming year are better than ever before.

TENNESSEE AT THE A. M. A.

WE note from the issue of the *A. M. A. Journal*, July 2d, under the head of registration by States, that Tennessee was represented by ninety-six members from various sections of the State. This is a fair showing when compared with other States, but it only shows a little over seven per cent of all the members of the Tennessee State Medical Association present at the meeting. Every member of this Association should become a member of the A. M. A., and in this way keep in touch with its great work. The officers of every Society should exert themselves at this time to bring new members into the County Organizations, and also induce them to join the A. M. A.

DEATHS.

WILLIAM EDWARD WILSON, M.D., graduate of Bellevue Hospital College, New York, 1874. A few days since we noted, from the daily press, the death of Dr. Wilson, due to drowning in one of the creeks near his home. While in the discharge of his duties of a general practitioner, he was caught in the flood tide following a cloudburst. In the death of Dr. Wilson, the city of Pulaski, County of Giles, and State of Tennessee have sustained a distinct loss, in that one of their leading physicians, best citizens and Christian gentlemen has thus come to an untimely death. He had practiced his profession in Pulaski for a number of years, where he enjoyed the confidence, respect and esteem of all who knew him.

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All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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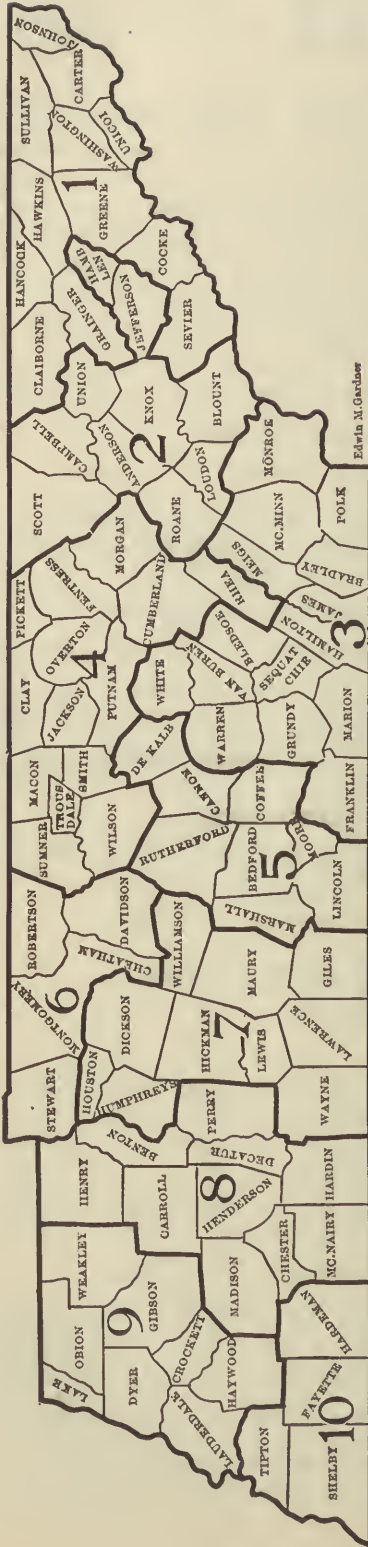
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COUNCILOR DISTRICTS.



By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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COUNTY SOCIETIES.

To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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PELLAGRA.

J. A. SEWELL.

DEFINITION: Pellagra — pella, skin; agra, rough. Pellagra ichthyosis, Italian leprosy, called by some writers lombardian leprosy, and by some scurvy of the Alps or the Alpine scale. It is, therefore, classed as a skin disease, as the name indicates.

HISTORY: The disease doubtless had an existence back in the prehistoric medical ages, but the first authentic account we have of it was its appearance in Oviedo, Spain, in the year 1735, where it seemed to be confined to a small area for a time and then became endemic in many provinces in Spain, and soon extended into France, Italy, Bucovia, Rumania and Austria; in fact, it became endemic in many cities and provinces throughout all Southern Europe. The disease was subject to fluctuations—sometimes very prevalent and at others not so prevalent; but at each successive outbreak it became more extensive. Finally, the constituted authorities in most of the countries in Southern Europe became alarmed on account of the inroads that the disease was making in the standing army as well as the reserve force.

Investigation was instituted as to its cause; hospitals were established for its treatment; government inspection of grain and other foodstuff was conducted with great care; sanitary rules and regulations were enforced rigidly; lessons in cooking were given; seeds were furnished

and the people stimulated by prizes to grow different grain and raise cattle—the object being to wean them away by various devices from their beloved mush, or polenta, as they called it, which constituted the principal diet of the poor classes.

While the discussion as to its cause waxed warm, the disease raged to such an extent that in seven years it increased 100%. In the Lombardian province it increased from 20,282 to 38,777, or about 2.9% of all the poor classes had pellagra. At about that same ratio it existed in very many provinces all over Southern Europe.

Though the fact may not be generally known, it is nevertheless true, that pellagra, cases of which are frequently coming to notice in various sections of the United States, has existed among us for many years unrecognized, or probably erroneously diagnosed, and attracted little attention. The startling development of the disease in its various phases in this country during the past two years has aroused such keen interest, and in some cases anxiety, on the subject of the, to us, new disease from both professional and lay point of view, that a pellagra conference was called to meet in Columbia, S. C., last year, to meet and confer with the best talent of both Europe and America as to the best means both to treat and prevent the spread of the dreaded disease.

The disease occurs among the poorer classes and develops most frequently in those of mature adult age. It is not contagious, nor is it now believed to be hereditary.

SYMPTOMS: The disease usually makes its appearance in the spring, and is frequently preceded by lassitude and great fatigue, vertigo, headache, pain in the epigastrium, and diarrhoea.

The cutaneous phenomena are, as a rule, the last to appear, and these can be divided roughly into three stages: The first, congestion or erythema; the second, with added scaliness, thickening and pigmentations; and the third, a tendency to atrophic thinning. When first, therefore, the eruption is erythematous in character, it is primarily dark-red in color, which later becomes dark-brown. It appears on the uncovered portions of the body, or those commonly exposed to the sun, as the back of the hand, the lower part of the forearm, face, and in persons who go barefooted, on the dorsal surface of the foot. This last statement, however, I see is called in question by the observations of Raymond and other observers, who have noted it on the feet of those who are foot-clad. The skin assumes a reddish color, soon develops a variable degree of thickening, and to these changes are added a burning and itchy sensation; and later on there may be loss of sensibility. The inflammation may have its seat in the superficial or deep layers—the epidermis desquamatis—the amount of scaliness varying somewhat in different attacks, and the underlying surface appears red and not infrequently is fissured.

Vesicles, bullæ and petechæ are also no uncommonly associated manifestations. Pigmentations take place during and after the erythematous attacks, the parts remaining more or less thickened. These latter features become more pronounced

with succeeding attacks. At the advent of winter the cutaneous phenomena show signs of improvement, and the disease gradually abates, and exceptionally may disappear. Usually, however, as late spring appears, it recurs, and the disease may repeat itself for several years, and in addition to the cutaneous changes brings in its course muscular weakness and mental despondency. These intervals are, as a rule, mere remissions in the malady, and not a disappearance, with subsequence recurrence. After repeated attacks the skin becomes wrinkled, thinned, lax and takes on a senile appearance, and presents a bluish-red or dark-brown color; and tends to exfoliate in large flakes. The fingers become more or less fixed in a semi-flexed position, and become very much atrophied, assuming very much the appearance of chronic ergotism of the gangrenous type; and sometimes the fingers amputate themselves in the joints, assuming very much the appearance of a genuine case of leprosy. Gradually the patient becomes debilitated and emaciated, owing to digestive weakness and to frequent co-existent diarrhoea, and also, doubtless, as a result of the change brought about by the involvement of the cerebro-spinal system. Later, as the pulse becomes weak and the muscular weakness increases, pains in the head and spinal cord and convulsions are present, stupor and melancholia develop and quite frequently insanity results, and sooner or later a fatal termination ensues.

ETIOLOGY: Many of the early writers upon the subject believe the disease to be due alone to a fungus which infests maize or Indian corn—*zea maidis*—of wet seasons, and others believe it to be due to a ferment through which the cereal passed during its preparation, and which constituted the principal diet and means of subsistence of the poorer classes of all

Southern Europe, thereby causing the disease under consideration. While this theory has been and is still maintained by many of the most learned men of Europe and America, there are many writers of both Europe and America who disbelieve in the maize toxin theory.

It would be of interest here perhaps in this connection to study briefly the early history of maize and its early connection with the disease under consideration.

Maize, otherwise known as Indian corn, was believed by Bonafin, a French naturalist and author, to have been cultivated from a very ancient period in the Asiatic islands under the equator, and quotes authorities as far back as 1532 in the support of this statement. From Asia corn was soon introduced into China, and shortly after the beginning of its cultivation there was transported westward. Later it was observed in India and Turkey—in the latter country being known as Turkey corn, under which designation in the year 1597 John Gerard, an English botanist, described seven varieties, and one species particularly which he called corn of Asia.

Both Gerard and Bonafin maintain that maize was first found in the Far East, and that following the discovery of America it was reintroduced into Europe from that country. Embodied in Bonafin's work is a drawing of corn, reproduced from a Chinese treatise on natural history, dated 1562, seventy years after the discovery of the New World by Columbus.

Santa Rosa de Viterbo, a Spaniard, declares in conflict with these writers that maize was introduced into Spain by the Arabs in the thirteenth century.

Egyptian writers and students of archaeology assert that they have never seen the likeness of corn reproduced on Egyptian monuments. Travel through Asia and Africa was quite extensive during the twelfth to the fifteenth centuries,

inclusive, and yet no mention is made of corn until the sixteenth century.

That the views of both Bonafin and Gerard were erroneous is evident from the fact that the expeditions to the New World undertaken by Ponce de Leon, Hernando Cortez, Francisco Pizarro, Lucas Vasquez de Ayllon and others, all in the beginning of the sixteenth century, had as members of their parties many who had previously traveled in the Far East, and they knew nothing of corn and had never seen it before their arrival in America. During one of those expeditions, headed perhaps by Pamphile de Narvaez, they penetrated the interior of Florida and seized a large quantity of corn belonging to the Indians at or near a bay now called Apalachee Bay. This was the first account we have of Europeans with corn as foodstuff.

Humboldt, a celebrated German scientist and author, furnishes conclusive proof that maize was first found in America and that its introduction into Europe was not a reintroduction, and that at the time of the discovery of the New World it had long been cultivated there, green corn being considered an important item of food by the Indians. Many of the tribes celebrated its season with religious ceremonies, festivals and their characteristic green corn dance.

Evidence as to the correctness of Humboldt's statement is found in the fact that in 1600 Barnino, in a medical treatise, called attention to a peculiar malady prevailing among certain tribes of the American Indians. From his meager description it evidently resembled the pellagra which we have today, and he ascribed it to the use of corn, which formed a part of the Indian's daily diet.

Francesco di Maffei, an Italian poet and archaeologist, a few months after the appearance of Barnino's treatise, made similar observations. At this time va-

rious travelers returning from the New World called attention to the same disease among the Indians and also a disease noted among the horses, as a result of which the animals became paretic and tabetic and also lost their hair. This affliction in the horse was thought to be caused by eating bad corn. All of this evidence obviously demonstrates that the North American continent is the natural habitat of *zea maidis* and consequently the original home of pellagra.

All modern writers agree that corn was introduced into Europe from 1680 to 1700, and that the first authentic account of the disease comes from Spain in 1735 and in 1750, fifteen years later, it broke out simultaneously in many places in Italy.

In 1762 Gaspar Casal described the disease and called it *mal de rosa*. In 1771, nine years later, Frapolli, physician to the Hospital of Milan, clearly described the disease and called it pellagra. To Frapolli we owe the present name of the disease. The same writer declares that at that time the disease was an ancient one and none other than pellarella, having been noted in 1578, as would be seen by reference to the regulations for admission to the Hospital Major of Milan of that time. If Frapolli was correct, the disease had an existence in Italy one hundred and fifty seven years before its recorded appearance in Spain and about two hundred years before the introduction of corn into Europe.

Gambattista Marzari, about 1810, called attention to the probable relation between maize and pellagra, and sixteen years later, 1826, Vincenzo Sette declared that the principal cause of pellagra was fungus producing acid decomposition in the fatty oils of the corn.

In 1845 Ballardina, of Italy, declared and demonstrated that pellagra was caused by eating damaged maize. His

views as to the causation of the disease met with contemptuous ridicule from many quarters. While the discussion as to its cause waxed warm the disease raged to an alarming extent.

Still later Neusser of Vienna, in 1867, and Lombroso, of Berlin, in 1898, in their writings attributed the cause of the disease to the eating of damaged or fermented maize toxine. The latter claims to have experimentally produced symptoms apparently similar.

Some writer, whose name I cannot recall just now, goes so far as to claim that neither cooking nor the process of distillation will destroy the toxin of fermented corn. If that could be true, at least one-half of the male population of the entire United States would have pellagra.

There are others who disbelieve in the corn toxin theory. There are Kaposi and Schreiber, Hardy, Brown and Carruthers, Brown and Low, Slack and McCall and Van Wort who have reported cases of pellagra in which corn has not entered into the dietary.

Kaposi and Schreiber, of Rumania, have seen cases of pellagra in individuals who have never eaten maize, but who had lived like well-to-do city people. Some of these patients had never worked in the sun, and one case that they report came from Bohemia, where pellagra is not endemic. Hardy, of France, also states that he has had cases in the Hospital Saint Louis in which maize had played no role. Many others have reported similar cases. It is evident that there are many points in the disease which are still obscure.

PATHOLOGY: Guertin, of Paris, in his study of the malady, was led to the conclusion that it was rather a condition than a specific disease, and due to impaired nutrition, which brings about a state of cachexia and misery, and may, therefore, be symptomatic of very differ-

ent affections, and met with in chronic illness, in alcoholism, and in lunacy, which act by producing a general deterioration.

The domain of the sympathetic and its central nerves and arterial channels are believed to be affected by the toxic principle, which is presumably formed in the intestines. The post-mortem findings are pachy-meningitis, sclerosis of the brain and cord, and anemic and atrophic conditions of the internal organs, fatty degeneration and pigmentary changes.

The cutaneous changes, according to Raymond, are essentially those of mild congestion and irritation, and more especially a hyperkeratinization with atrophy of the rete.

DIAGNOSIS: In this country, where we are not expecting to meet with diseases of this type, some difficulty might well arise in the diagnosis in the early period. The most prominent characteristic signs are the parts affected, the back of the hands, the lower forearm, face, and often the dorsal surface of the feet. The character of the eruptive phenomena, dermatitis, usually of a mild type, with sometimes vesications and bullous lesions, together with thickening and pigmentations, especially later on in the progress of the disease. Those symptoms and the associated general disturbances of the digestion, frequent diarrhea, nervous involvement, melancholy or other evidence of mental despondency, will usually prevent error. In the diagnosis by exclusion there are only a few things that need be considered. First, you should not be confused with another rare condition, pseudo-pellagra, observed in habitual drunkards with peripheral neuritis. Secondly, with chronic gangrenous ergotism. In that disease we have at first more or less the same train of symptoms, erysipelatous redness on some peripheral locality—on the toes and feet, less fre-

quently on the fingers, hands and face. Thirdly, that of leprosy, as that malady has also made its appearance in this country and presents varied and manifold symptoms.

The clinical aspects in some cases seem totally different from those in others, and in others again, are of mixed character. So varied is the appearance of this disease that we are liable to get mixed up in our diagnosis in this country where we are not expecting to meet with any one of the diseases mentioned.

REPORT OF CASE: In January, 1909, I was called to see one Sex Wester, colored, aged about twenty-three years. This case had created a great deal of interest in the profession for several years. He had been brought before the Roane County Medical Society some two or three times, by different doctors who had been treating him, for a diagnosis. The writer did not happen to be present at either of those meetings. There was scarcely a meeting of the society without mention being made of that remarkable case. I was, therefore, pleased at having the opportunity of seeing it. The diagnosis was easy. I saw at a glance that I had before me a case of pellagra in the last stages, with all its loathsome horrors. As to symptoms, not one of those already enumerated in this paper was lacking. The history of the case so far as I was able to procure from his mother, was that the disease had come upon him about thirteen years before, when he was about ten years old. It had taken the usual course of the disease, appearing better and worse. He would appear sometimes to make a complete recovery and the disease would return again. Some three or four years previous, during one of his bad spells, as his mother termed it, the fingers of the left hand amputated themselves through the first joints. The stumps healed over and he grew better for a while. The fol-

lowing summer he grew worse again, and his fingers on the same hand amputated themselves through the second points. There seemed to be no further abatement in the progress of the disease. When the writer saw the case the toes of the right foot were amputating themselves. Since his death, which occurred a few weeks later, his mother informed me that before death the right leg was amputating itself through the hip joint. I cannot vouch for the correctness of this last statement, but the way in which the statement was made convinced me of the truthfulness of her story.

PROGNOSIS: Would not like to risk my reputation on a favorable prognosis, no matter how slight the attack might be at the outset of the disease, nor how favorable the surroundings, nor the sort of food that could be procured, for the disease is so deceptive that doubtless there are many cases turned out of the hospitals and sanitariums, as cured, that, when the following spring comes, they find that it was only an abatement in the course of the disease, gradually growing worse each year, until it eventually proves fatal; and those that do not eventually prove fatal

were doubtless erroneously diagnosed. The average duration is five years, although it may continue for ten and even fifteen years. The case I saw was of thirteen years' duration.

TREATMENT: So far there has not been any specific remedy discovered, and medication has little or no effect in the treatment of the disease; the essential managements consists in placing the patient in good hygienic surroundings and improving the general health by giving good, nourishing food, and such tonics as may seem indicated. The various preparations of arsenic and iron are the remedies upon which reliance has been placed and which sometimes seem to influence the disease favorably.

Prophylaxis operating through the medium of the enforcement of the pure food law, the enactment of suitable prohibitory laws regulating the sale and use of intoxicants, the rigid enforcement of good hygienic rules and regulations, together with compulsory education and the art of proper cooking being taught in our public schools, in our opinion affords the only way to successfully combat the malady.

AMEBIASIS.

Complicated in One Instance by Pellagra; Case Report—Presentation of Patient; In Another by Eighteen Adenomata.

BY JOHN L. JELKS, M.D., MEMPHIS, TENN.

For several years I have observed certain skin affections among patients suffering infections and ulcerations of the large gut.

The condition never, however, attracted such thought as the probable dependence one upon the other until two years ago. At this time an old lady was referred to me by Dr. W. S. Lawrence, of Memphis, for an

examination and treatment of a bowel condition from which she had suffered forty years, which, from the history she gave, made me more confident that the symptoms presented then were caused by the same infection as that which caused her bowel troubles throughout the preceding forty years.

Proctoscopic examination revealed a

very extensively scarred and distorted rectum and sigmoid and a chronic proctosigmoiditis with an occasionally indolent ulcer, scrapings from which revealed the *ent-ameba histolytica*.

I could see no hope of cure in this case and so reported to her physician. I put her on irrigations and diet and referred her back to her physician.

I noticed in this case an erythematous and macular dermatitis, from which she stated she had suffered many years, and which at times was much worse than at the time I saw her. From her description, I judged that the lesions were at times erythematous, occasionally edematous or urticarial. Shortly after this she had a return of the dermal trouble and died apparently from exhaustion produced by a most extensive desquamative dermatitis.

Two years ago a doctor consulted me for a chronic bowel trouble from which he had suffered fifteen years, which had been complicated at one time with a liver abscess which emptied into a bronchus.

He was a man who had prospered, then lost, and with this loss of money also his health and hopes, and had become almost an object of charity, certainly one of pity, and had often contemplated suicide. A true and complete history of him and his sufferings and reverses makes me assert that most of us would have given up.

I found his condition was one of chronic amebic invalidism, and when I began irrigating him I observed an eruption, the history of which was chronic, and which was macular, papular and pustular, and the areas most involved were the exposed surfaces and the buttock.

The healed pustules or eruption left a bluish, dirty discoloration which was not unlike that of a syphilide, and though he strenuously denied having ever contracted syphilis, other physicians who saw the skin condition were unwilling to accept

his statement. I did believe him, however, and protested his freedom from that disease.

I observed then that the skin eruption quickly cleaned up when rectal and colonic irrigations were begun and other treatment instituted for the ulcers in the rectum and sigmoid. In fact, the ready response to this and no other treatment made me venture the assertion, in April, 1909, before the DeSoto County, Mississippi, annual society meeting that there were skin manifestations in a proportionate number of amebic infection. I again made bold the same assertion before the Arkansas State Association, in May, 1909, at which time I was able to report a reply to a letter of inquiry from Doctor Haase, of Memphis, who had written Dr. Levy Bing, in Gaucher's clinic, of my assertion made in Mississippi, and that Doctor Bing stated he had observed a skin affection in two recent cases of amebic dysentery. A few weeks ago Doctor Maples, of Olive Branch, Miss., brought into my office a case which clinically presented all the appearance of pelagra, and I understood my diagnosis only verified that of the DeSoto County Medical Society at its last meeting.

Dr. Haase was called to my office and he confirmed the diagnosis which we lesser lights had made, yet the clinical history and the picture marked such great similarity to other amebic cases and skin lesions observed associated with amebiasis, that I then introduced a soft catheter and obtained micropurulent material from her rectum, for she had bowel trouble of three years' duration. She was emaciated, anemic, and presented the appearance of a child the majority of whose red blood corpuscles had been destroyed. I found the typical *ent-ameba histolytica*, which, however, appeared somewhat smaller than is usually seen, and, instead of red blood corpuscles, many dark gran-

ular particles, perhaps blood corpuscles disintegrated and mostly digested, were observed in the endoplasm, yet I must mention this observance for what it might be worth. The thought was a scientific one, and yet, though not my habit, which prompted my waiting until the meeting of the Tennessee State Society, before beginning irrigations, I there hoped to present the case especially on account of the presence of those distinguished clinicians, Drs. Dock, Stiles, Bass and Harris. Microscopic examination in case (2) of the pus from the pustules was made by both Dr. W. M. Krauss and myself and only the staphylococcus pyogenes aureus and a few albus were found. I feel confident I am right in my conclusions: First, that there are skin complications and sequelae in a large number of amebic cases. Second, these skin manifestations have a direct and unmistakable dependence and bearing upon the intestinal infection and lesions. Third, if this case in point presented, was correctly diagnosed by those many able clinicians and skin specialists, pellagra, I feel that I have done much in bringing to light the underlying etiologic factor in cases of pellagra hitherto obscure, and if in this child there is left sufficient vitality to stand an appendicostomy, I believe she will be cured of her pellagra, as she is cured of her amebic infection and toxæmia.

I have never seen reference made to these skin manifestations or complications, from any other source until quite recently.

It appears that other and good authority is responsible for similar observations, for in *Journal des Maladies Cutanées et Syphilitiques*, Professor Audry speaks of cutaneous symptoms which seem, at times, to accompany muco-membranous enteritis. These symptoms come on, even before the intestinal phenomena. They take on three eruptive types, which are:

Genital herpes, or erythematous type, and erythemato-urticarial type. The first does not need any particular description; but patients are seen who predict an attack of entero-colitis by their herpetic crops. The erythema of entero-colitis of the muco-membranous type represents a form that is sufficiently well defined to permit the author to make a diagnosis, with certainty, of an intestinal trouble of which the patient was not aware, or of whose existence he was unaware. It is always preceded by headaches, malaise, feverishness, fatigue during a period of time, which varies from one to three days. Then itching comes on and, almost at once, a redness. The itching has its principal seat in the face; but it is also felt, in a milder degree, on other portions of the body. The redness appears almost exclusively on the face; it occupies the cheeks, the forehead very slightly, and principally the diseased parts. It is a redness which appears and settles itself very rapidly, it is very marked; at first assuming a branched form, then a macular one; then it is converted into large surfaces with sharp and irregular borders of varying shapes. There is almost no elevation whatever of the erythematous surfaces. At the end of a few days the red surfaces become covered with fine scales, the redness progressively fades away, and all disappears in a period of time, varying from three to ten days.

So far as relapses are concerned, they occur without any cause more known than the majority of attacks of entero-colitis.

Dr. Audry insists upon the fact that the eruption precedes an intestinal breakdown, evidenced by a small number of stools that are fetid or not, loaded with pseudo-membranous mucosities, and semi-liquid rather than frankly diarrhoeic. The erythema becomes very slight promptly after these. The third variety is more

rare than the preceding ones; it is not, to say the truth, of a relapsing nature: but it is made up of sub-developed attacks which are renewed for weeks and months. These attacks are made up of a sort of explosions of circumscribed edema, rose colored, and superficial, whose duration lasts rarely longer than a few hours and which leave without any traces remaining.

The edematous elevations are soft; they are not larger than a silver dollar, at most; they are scattered, without order, at all points of the skin; they do not itch, nor is there any pain; patients become aware of the onset by a slight local uneasiness and a sensation of a slight drawing of the integument. While the second variety, that of pure erythema reticulatum at the beginning, is manifestly bound with the attacks of entero-colitis which announces, the present variety does not possess this characteristic; only, it is observed in individuals who are often neurasthenic and with larvated entero-colitis, and is not connected with patent exacerbations. Thus you observe Prof. Audry has supported my conclusions.

Dr. C. C. Bass says he finds that the Wasserman test, using lecithin as antigen, is markedly positive in cases of pellagra. And concludes that this is additional evidence in favor of the disease being due to some protozoan organism.

This statement seems further supportive of an idea conceived by me in this case of pellagra which I have presented. Namely, that the condition known as pellagra may have its solution as to etiology when systematic examinations are made of the intestinal contents and conditions. This same fact may explain the greater prevalence of pellagra in certain sections; as in the south, where amebiasis is most prevalent.

An interesting fact also is the singular coincidental, if not consequential skin

lesions in so many chronic amebic cases which I have observed. Take these observations and inferences, gentlemen, for what they may be worth and aid me, please, in sifting from them all that's worth our knowing.

Regarding the other complication—adenomata in amebiasis—I wish simply to report that in this case of amebiasis I observed in the rectum and sigmoid, eighteen adenomata, which is the greatest number ever observed in any of my cases. In fact, in only one preceding case had I ever observed this complication; in that instance only nine adenomata were observed.

DISCUSSION ON THE PAPERS OF DRS. SEWELL AND JELKS.

DR. GEORGE DOCK, New Orleans, La.:

This paper of Dr. Jelks is extremely interesting, and very important in calling attention to the necessity of close observation in all cases of bowel disease, especially in amebic dysentery, and then in connection with pellagra. It is especially interesting to me, because although I have been working with dysentery and with pellagra for some time I have not been fortunate in seeing the combination, which is all the more disappointing in this respect, because I early predicted that amebiasis probably would be a predisposing cause for pellagra. My experience with the two diseases runs somewhat this way:

We have had about thirty-five cases of distinct pellagra in New Orleans in the last season, and all of these cases have had their stools examined and many of them have had proctoscopic examinations made. They were examined all the more critically because at the pellagra conference, held last fall, one of the speakers stated he found in all cases of pellagra, reporting quite a large number of cases, amebas in the stools. Although New Orleans is rich in amebiasis, we have not found the combination of amebiasis and pellagra to occur in a single case. Even as nonpathogenic parasites, we have not found amebae in a single case of pellagra. That is extremely interesting, although I still believe that cases will occur in which the combination will be found. I am convinced also that in a great many cases of

pellagra there will be no amebiasis. Our observations on the stools have coincided with the majority of others to the extent that the bowel lesion in pellagra is not an ulcerative one. It is not very often even catarrhal. We have not had a patient with evidence of severe catarrhal changes during life or in which ulcers have been found post-mortem, and we have made autopsies in twenty cases. The condition of the stools in pellagra is suggestive of a neurotic condition. The stomach secretion is lowered. That may be the result of a depressing disease, although it may be a functional trouble from the beginning. At any rate, the condition of the stools is very much like one finds in cases of hypochlorhydria, with hypermotility, or in cases of neurotic indigestion, where there is no particular cause, but where neuroses can be found to coexist.

On the other hand, I agree with Dr. Jelks that pellagra is probably an animal parasitic disease, and from the observations of Dr. Bass, which have been confirmed by others, the disease is probably due to some protozoan organism. The organism has not yet been found. But the character of the disease is highly suggestive of such a condition with the resultant effect on the nerves.

In regard to the patient Dr. Jelks has exhibited here, I think the case is a striking example of pellagra and it very well illustrates the ease of making a diagnosis when you know the disease, but difficult when you do not know it. A few years ago one would say that perhaps this was a case of toxic erythema and would be satisfied with that diagnosis. I know I made such a diagnosis over and over again; but when you think of a child who has not been working in irritating liquid; when you think of a child who has not been exposed to irritating conditions of the skin, why do you get such a symmetrical, striking skin change? I have talked with a great many specialists about that and none of them can name a single condition except pellagra. Let us take the pictures of the skin supposed to simulate pellagra. The photographs published by Fox no one would think of confusing with pellagra. They look like poor descriptions of pellagra, but have not the skin this girl has. While she is not in a typical condition, still she has a condition typical enough to establish a diagnosis of pellagra until one can prove it is something else. These lesions are erythematous. They are sharply circumscribed, not all the time, but there are a great many places where the lesions stop

abruptly and desquamation takes place. She has the other changes which are striking. She has hyperkeratosis and she has atrophy of the skin. The atrophy comes on very early. We get the idea sometimes that the skin must be thickened in pellagra. The word rough skin does not necessarily mean thick skin. In the earliest descriptions and figures of the skin of pellagrins we recognize atrophy. The skin is tightly stretched over the tendons and shows it must be atrophied in these cases, although rough. The condition in this little girl is striking. Looking at the girl's mouth without having any pyorrhea, and no scurvy, she has a hypersecretion of saliva. When I asked her if her mouth burned, she said it did. The child probably drools over the pillow as she lies in bed, but it is surprising to see how that will come and go. You will have a patient improving in other respects, yet his mouth will be sore. There is nothing about his diet that made the mouth sore, but it gets sore.

One other point in regard to corn. Nobody believes that corn, as corn, produces pellagra. Everybody who believes in corn thinks there is some disease or infection in the corn, so that eating corn won't necessarily give a person pellagra any more than eating oysters will give typhoid fever. If the oysters have typhoid germs in them they may cause typhoid fever. The more we learn about the corn industry and storage, and shipping, the more we realize that corn becomes infected easily. A most suggestive article on this subject was published in the *Journal of the American Medical Association* about six weeks ago by a corn merchant. It is well known that corn is an extremely delicate substance, and very easily spoiled. The people who get pellagra are not people who live in the corn region, but the people who eat corn brought from somewhere else. The Italians do not get pellagra from eating home-grown or homemade corn, but from eating corn brought from Rumania or Argentina. The people in the South who have pellagra get it from eating corn brought from Iowa, and not from Southern corn.

In regard to the history of corn, we cannot depend upon the history a patient gives in regard to eating corn. I have had this experience more than once: a patient comes to the clinic who is intelligent, who is slow in answering questions, but still men ory seems to be good. That patient positively denies he ate corn; yet when outside of the clinic and interrogated as to whether he had ever eaten corn, he replied

that he used to eat corn and it made him sick. Patients will forget that, and although I believe one can get pellagra without eating corn, yet so far as I have seen pellagra has occurred in most of the patients who have eaten diseased corn and they all get sick after eating it. That is an important part of the history.

Another point is in regard to the climatic relations of the disease. Pellagra is a spring disease in some latitudes, and is probably chiefly a spring disease in the latitude of Memphis. In the latitude of New Orleans and southern Mississippi pellagra has two seasons, the fall season and the spring season. We had a great influx of patients at the end of September and also October. Another interesting thing is that we have two vegetation seasons in Louisiana, that is, grass and flowers grow twice. We always plant fresh ornamental plants in the fall. It is interesting to notice that we have exactly the same condition as regards vegetation and as regards pellagra as they have in Egypt. Furthermore, the climatic conditions of the gulf coast along the region of New Orleans are almost exactly those of Cairo, so that the relation of the disease to various climatic conditions works out in an interesting way.

DR. LOUIS LEROY, Memphis:

I was interested in the history of the case outlined by Dr. Jelks, and have been interested in the relationship between amebiasis and pellagra. I was also very much pleased to hear the views which Dr. Dock advanced. As to the almost certain parasitic causation of pellagra, because that is agreeing exactly with the views which have been forced upon me for some time in considering this disease, there is no doubt that amebae are very frequently associated with pellagra, almost too frequently to be looked upon as a coincidence. Still I believe we are not ready to ascribe too great an etiologic relationship between the two, because we see in this locality a very large number of cases of amebic infection in a relatively small number of cases of pellagra in which the two are associated. Again, we see a good many cases of pellagra in which we do not find amebae. In this same connection we have seen cases of pellagra in which hookworm have been found, and in which other types of intestinal ulceration occur. In other words, thus interpreting the facts, it seems to me that what we have to deal with is a condition in which the infection, if pellagra be infectious, and I believe it is, has gained its entrance through the

gastro-intestinal tract, and if that be true any lesion in that tract will facilitate the entrance of that infection. We know that amebae will produce a large number of ulcerations, therefore a large number of potential ports of entry. The same reasoning might apply to any other type of intestinal ulceration or intestinal parasite.

As to the condition of the mucous membranes in pellagra, it appears to me as if possibly another factor was at work producing these violent congestions, because we have an intense congestion of the mouth and of the stomach and intestines, but not only that, but of other mucous membranes, especially the genital tract. There is a marked vaginitis, and in some cases I have seen a urethritis, and vesical tenesmus has been associated with pellagra. I interpret those things possibly as an evidence of an attempt at elimination, and that this irritation of the mucous membrane is partially, at least, contributed to by irritation of such substances which are being eliminated through these mucous membranes. I am not prepared to say it may not be neurotic, or that it may not be reflex or due to some other cause, but it seems to me that we are not in a position to exclude irritation of the mucous membrane through the elimination of toxic material.

DR. MARCUS HAAS, Memphis:

The subject of pellagra is very interesting to me, but I did not expect to be called upon to participate in this discussion. My experience with pellagra has been limited to something like twenty cases, and I am not willing to say that all of them were cases of pellagra without going into the etiology of the disease. This manner of shooting up into the air as to the causative agent of pellagra does not help us at all, and will only muddle us.

As to its relation to amebiasis I am not willing to agree to that at all. I believe we may have amebiasis and pellagra associated, but that it is simply a coincidence and that the one has no relation to the other because of the existence of a number of instances of amebiasis in this region, and the very few cases of pellagra. Again, Professor Dock has told us that he has seen a number of cases of pellagra which were not associated with amebiasis.

During the meeting of the Southern Medical Association it is said that a statement was made by the president to the effect that pellagra is related to leprosy. Now, those of us who are familiar with leprosy are quite sure in our

own minds that pellagra has no relation whatever to leprosy. I know leprosy quite well, and I would never confound the two diseases in my mind, and I am quite sure it would not be confounded in the minds of others.

At a meeting of a medical society in Mississippi not long since an essayist distinctly stated that it was known that pellagra is related to syphilis; that syphilis is the causative factor of pellagra. There again, we are quite sure in our own mind that men who are familiar with syphilis know that pellagra has no relation to it.

As to one of the cases the essayist spoke of, the elderly lady, who had an erythematous condition which coexisted with amebiasis, I had the pleasure of seeing that case, and from a dermatological standpoint I should say positively that it was a case of unquestioned dermatitis exfoliativa. Whether amebiasis has any relation to that disease I am not willing to say, except we have a number of cases of amebiasis here and very few cases of dermatitis exfoliativa, and I believe that this case was only a coincidence. The woman died of exhaustion from repeated attacks of dermatitis exfoliativa.

I have seen the other case Dr. Jelks speaks of, and I have noticed the eruptions of the skin he speaks of in these cases of amebiasis. I have no doubt, however, that pellagra and amebiasis are associated in a few instances, but to get back to pellagra we should not confound this disease with something else and blame the other diseases as a causative factor of this disease. Let us study this disease alone for a while and try to ascertain its etiology.

DR. WILLIAM KRAUSS, Memphis:

I have seen a few cases of pellagra, and my observations on them have added nothing to what we find in the literature on the subject.

There is some confusion existing, however, with reference to the seat of the lesions and the portals of entry. I am willing to admit that the intestinal tract is probably one portal of entry. The lesions we have found post-mortem are probably due to changes in the nervous system, and are not primarily due to the condition of the gastro-intestinal tract. I regret exceedingly I did not bring down some specimens in Kaiserling of an intestine, because they would have been very interesting to you, but I did not expect this subject would come up or I might have brought these specimens here. They were removed from a patient who had

had hookworm disease, and who subsequently developed pellagra and died about six weeks after he was first brought under our observation as a pellagrin, and in whom the entire intestinal tract showed no evidence of such a lesion as you would find in hookworm disease, nor did we find any worms. We found a shaven beard appearance of Peyer's patches; we found marked hyperemia of the entire intestinal wall, and that is about all. There was no ulceration, but hyperemia only. Whether that speaks in favor of elimination of toxins, or whether that is the result of a neuro-toxic condition such as we find in the skin is probably still debatable. So far as the etiologic relation of amebiasis or syphilis or hookworm disease to pellagra is concerned, we do not know, but I do not see why they may not act as predisposing causes. I am not willing to subscribe to any relationship between the conditions unless possibly that yaws and syphilis and pellagra may later on be found to be somewhat related. I have often discussed this subject with Dr. Leroy, and we both believe it possible that we are dealing with some spirochete or trypanosome, but we do not know. That amebae can leave a place or portal of entry for the introduction of pellagra is a possibility so long as we do not know any more about the disease, and we are hardly justified in making the statement that the two diseases—amebiasis and pellagra—are related. On the whole, there is nothing decided, but the case is interesting as bringing the subject of the relation of the two diseases up for discussion, and while amebae unquestionably reduce not only local resistance, but the general resistance of the patient, I cannot admit as yet that amebae are etiological factors of pellagra, passing from the intestinal mucosa into the general circulation.

DR. G. C. SAVAGE, Nashville:

At the New Orleans meeting of the Southern Medical Association a false statement was credited to me. Dr. Witherspoon was not present when the pellagra question was up for discussion. I presided for him. I can prove by Dr. Dock that I did not open my mouth except to introduce men, and one of my functions was to introduce Dr. Dock, and the other time I opened my mouth was when I apologized for Dr. Witherspoon not being present. I understand that the Associated Press sent all over this country a statement as coming from me that purported to have emanated from the President of the Southern Medical Association.

I said no such thing. I understand one medical association in this country has adopted the supposed views held by myself. I at once wrote the officials of that association that they had better undo their adoption for I had said no such thing. What I really did say was this, that "I would as soon believe that pellagra is a kind of leprosy as to believe it is caused by corn." But I do not believe either one. Those were the words I used. I need not discuss this matter any further. I do not know who is responsible for that publication, and I trust that my friend Whitford, who represents the *Journal of the American Medical Association*, will state in that journal what I really did say.

I want to sound a note of warning, although I have done it before, and that is that pellagra is contagious whatever may be its cause. We have evidence in Nashville sufficient, if placed before the world, to convince the world that pellagra is a contagious disease, whatever may be the germ or parasite that causes it. Therefore, the effect of my word of warning is that it is unnecessary for a physician to touch a patient suffering from pellagra, unless he is blind. If he is blind, he cannot make a diagnosis by the touch.

DR. NEWTON EVANS, Nashville:

In connection with Dr. Jelks' paper I desire to report an observation which I made upon some pellagrins in Nashville. There are thirteen children segregated there for pellagra, and I made fecal examinations of these thirteen cases and found five of them had uncinariasis. I do not believe that the coincidence of these two diseases in such a proportion of cases should have any influence in making us believe that one is the cause of the other. I believe that any number of children in the same social status would probably give an equal percentage of hookworm infection.

DR. E. H. MARTIN, Hot Springs, Arkansas:

It has been stated in this discussion that pellagra is a contagious disease, but in all the works or articles I have read on the subject and considering all the evidence we have at hand, it is looked upon as non-contagious. While I have great respect for the opinions of those gentlemen who entertain the idea that the disease is contagious, I think we need additional proof before publishing such a statement broadcast. Many of you will remember how, in for-

mer years, yellow fever was considered a contagious disease, and still we do not consider it contagious today. I think a little more explanation ought to be given, because we ought not to permit the idea of the contagiousness of pellagra to be scattered broadcast. Personally, that idea does not appeal to me.

DR. WILLIAM LITTERER, Nashville:

I think pellagra is a separate and distinct disease, although it may be associated with other pathological conditions. I have had the opportunity of making a post-mortem examination on a case of pellagra in which I found almost the identical pathological conditions that Dr. Krauss has mentioned. In this case I found several hookworms in the jejunum but not, however, at the time of the autopsy. They were discovered several months later when that part of the intestinal tract was being prepared for microscopic study.

I have been making investigations concerning the relationship of pellagra to syphilis with reference to the Wassermann test. Out of the twenty cases in which the Wasserman test was applied only two gave a distinctly positive reaction. This was an original Wassermann, and not the Nogouchi modification. There have been some positive results obtained by the Nogouchi modification, in which lecithin was employed as an antigen. I do not use lecithin, but employ the organ extracts or syphilitic liver as my antigens and as a result obtained absolutely negative findings except in two cases. I am strongly of the opinion that pellagra and syphilis have no relation whatsoever.

DR. J. D. HOPPER, Jackson:

I believe I ought to say something on this subject. Having read a good deal on pellagra since the question has come up, and having heard the discussions here on the floor, I feel that I have a perfect right to say what I believe about pellagra because I think we are standing upon the same footing, that we do not know anything about it. (Laughter.)

I was somewhat interested in the remarks made by Dr. Jelks. The Italians claim that maize or corn produces pellagra, but they base their opinion upon the fact that they can feed smoot corn to chickens and turn the combs black. As Americans, it behooves us as physicians to disprove the maize theory because the corn of America is one of its resources from a financial standpoint, and as I stand on the floor

I say I believe I have a right to speak as much as any doctor because we do not know anything about it. But I do know that if this theory is promulgated it will do harm, and we ought not to say that corn is the cause of pellagra until we have positively found it out to be so. If we as physicians go out and say that we believe it is corn, then we destroy the value of one of our greatest products in this country. We cannot afford to do it. We cannot afford from a financial standpoint to do it until it has been proved that the disease is caused by corn. I ask all of you to be careful in regard to the statements you make concerning corn, because what you say will mean a good deal to the corn industry of this country from a monetary standpoint.

DR. JELKS (closing the discussion):

In reply to the remarks of the last speaker, I do not believe that a monetary point of view should be considered in discussing or in investigating diseases by the American physician. I think there are higher and nobler principles that should be instilled into the minds of young students as they leave medical colleges. Our aim should be to do good for suffering humanity,

rather than to make dollars and cents for our pockets. I have asked these gentlemen to investigate the etiological relationship that was observed in this case. That is all I have asked with reference to these two cases. I have seen similar skin conditions in a number of cases of amebiasis which, with the intestinal condition, have cleared up quickly when treatment was begun.

With reference to ameba and its discovery in one case and not in another, I wish to say we do not always find the ameba in cases of amebiasis. Many times I have looked for the ameba for an hour or more believing it was there, but failed to find it, but instructing my patient to take a dose of salts and to come back to see if it could be found, and it was I who insisted that we should not say a patient has not amebiasis when suspected until we have examined microscopically scrapings from the intestinal mucosa with a view of determining whether the ameba was present or not. I do not say positively that pellagra has its origin or source in amebiasis, but I have observed the association of the two diseases not alone in this case I have shown you, but in other similar cases, and I ask all of you to assist me in this investigation.

✓ TRIFACIAL NEURALGIA.

DR. W. T. SWINK.

THE treatment of trifacial neuralgia, tic douloureux, has been the bete noir of the medical profession from time immemorial. "It has been estimated that nearly twenty per cent of the cases of trifacial neuralgia are amenable to treatment other than surgical" and these cases are very probably of the minor neuralgias due to constitutional conditions or peripheral irritations, as of the nose and mouth; but the object of this paper is to deal with the major neuralgias whose etiology is yet unknown and its pathology still a mooted question.

Tic douloureux, as a rule, comes after the age of forty, in the degenerative period of life without any predilection for

sex or social condition. The advanced age and debilitated condition from long suffering make these patients such poor subjects for the radical Gasserian operation that it has led investigators to advise and perform such peripheral operations as section, resection or avulsion, with the result of only temporary relief, the pain most often returning upon regeneration of the nerve.

In January, 1883, Neuber, of Kiel, began the daily subcutaneous injections of four to six drops of a one per cent aqueous solution of osmic acid near the infra-orbital foramen, angle of the nose and the lower lip, giving the patient a relief for about four months; this treat-

ment was adopted by many physicians with the improved technic of injecting a one and one-half to two per cent solution intraneurally after making a short incision and exposing the nerve at its exit in the peripheral foramen. Dr. J. B. Murphy is an ardent supporter of the osmic acid injections for trigeminal neuralgia, and in a report of thirteen cases he secured relief in twelve and the other was a failure and underwent the operation for removal of the Gasserian ganglion. In a later report, 1909, Dr. Murphy states that, "In the last five years I have been compelled to remove the Gasserian ganglion three times on account of repeated recurrences, and three times when patients had refused to have osmic acid injections on account of so many failures in their cases by peripheral operations and other injections."

In 1900, Schlosser began the alcoholic injections for the treatment of trigeminal neuralgia that seems apparently to overshadow the results of the osmic acid treatment and to regulate all peripheral surgical operations. His treatment with slightly varied methods and technic has been popularized abroad by Oswalt, Alexander, Levy, Baudouin, Brissard and Sicard, and in America by his pupil, Kiliani, and Patrick and Hecht.

Unlike osmic acid, the alcohol can be injected into the branches of the fifth nerve at their exit from the cranium, the foramina rotundum and ovalis; the peripheral foramina, supraorbital, infraorbital, dental, mental, etc., as well as into the ganglion itself.

The results attained by some in the alcoholic injections are exceedingly prepossessing. Kiliani reports one hundred and ninety cases treated, with failure in five cases. Patrick's seventy-five cases, with seven failures, and it is worthy of note to say that of these seven failures all may have been due to, as Dr. Patrick

says, in regard to his first failure, "not to the method, but to my own inaccuracy," the failure being due to the inability of the alcohol to reach the nerve. Sicard says that he has seen patients who had had twenty-five injections without result, cured after a single successful injection. The technic must necessarily be perfect and the successful injection is demonstrated by the analgesia of the parts supplied by the treated nerve.

Of one hundred and ninety-three cases reported by Sicard, Patrick and Kiliani, one hundred were women, ninety-three men; of one hundred and seventy-one of these cases one hundred and eleven were right trifacial and sixty left. And the branches affected as follows:

One branch or ophthalmic alone, 1 time;
11 branch or superior maxillary, 35 times;
111 branch or mandibular, 6 times; 1 and 11 branch, 72 times; 11 and 111 branch, 71 times; and all branches, 10 times.

It is of passing interest to note that the right side is most often affected and involvement of a single branch is not so common, especially in cases of chronicity.

I have been unable to find anything in the proceedings of the society in regard to any treatment of trigeminal neuralgia that I now presume to go into the methods of the alcoholic injections, not with the view of presenting something new, but, to quote Dr. Patrick, "unfamiliar to the medical public."

My experience being confined to two cases with cure, so far, by peripheral injections, I felt myself encumbered to learn the technic of the injections at the foramina rotundum and ovale for further treatment if necessary. There are two methods of injecting into the nerves, Schlosser and Levy Baudouin. The latter, being much simpler and easier, I have selected.

For the inferior branch, the needle is inserted at the lower border of the

zygoma 2.5 cm. in front of the descending root of the zygoma, which can always be felt, and almost coincides with the anterior bony border of external meatus. The point of insertion is about one and one-quarter inches in front of the incisura notch of the ear. The needle is directed slightly upward and backward, striking the under surface of the great wing of the sphenoid, it is then made to follow along the bone until it reaches the foramen ovale at about the depth of 4 cm. The needle inserted here passes through the skin, subcutaneous tissue, the zygomatic insertion of the masseter, posterior portion of the temporal tendon and superior border of the external pterygoid muscle.

The middle branch is best reached by sinking the needle below the malar bone in front of the coronoid process, 0.5 cm., posterior to a vertical line drawn from the posterior of the ascending orbital process of the malar bone to the lower border of the zygoma. The needle should be sunk inward and upward and reach the foramen rotundum at a depth of 5 cm.

The needle is a straight steel, gold plated, about 10 cm. in length and 1.5 mm. in diameter, with a sharp, beveled point, fitted with a blunt pointed stylet. The needle is graduated in centimeters from the point up to five, so the operator is able to tell the depth attained.

The solution used is about eighty per cent alcohol, with four grains of cocaine to the ounce; about one and one-half to two cc. are slowly introduced with a Luer syringe, which fits the needle tightly.

A general anesthesia should not be used because the patient is able to tell with a scream of pain when the needle reaches the nerve; but if a general anesthesia is used the patient should be allowed to partially come out of the anesthetic after the needle has been inserted and the point ready to strike the nerve, then the face will give a twitch in re-

sponse. The head should rest naturally on the well side and the skin rendered antiseptic as for any other operation. The hand of the operator rests firmly on the bones of the face, the stylet slightly withdrawn, the needle is introduced one cm., then the stylet pushed home, the needle is introduced to the required depth and the solution injected slowly and with intermission of 30 seconds for every fifteen or twenty drops of fluid. After introducing the solution, the needle is left in situ for a minute or two to prevent oozing. A collodion dressing is then applied.

The dangers in the alcoholic injections are very few except in the deep injections of the ophthalmic branch, which is discarded by most operators who make the injection for the ophthalmic branch at the supraorbital notch or foramen.

Injections at the foramina rotunda and ovale require a great deal of practice and absolute familiarity of the anatomy of the base of the skull; one must have a mental picture of the parts constantly before him or he will have great difficulty in reaching the nerve with a needle at the depth of two inches.

In injecting the inferior branch, the needle should not be pushed in too horizontally or the pharynx may be pierced, though said to be more unpleasant than dangerous. Again, if the needle is inserted too deep in the foramen ovale the cavernous sinus and internal carotid will be punctured. Injections at the foramen rotundum have caused a paresis of the sixth nerve, lasting for a few weeks, in a very few cases and also a keratitis of the cornea.

Alcohol should never be injected in a nerve of motion and sensation as it produces lasting paralysis of the muscles supplied by it. There have been no deaths or cases of infection reported from its use. Edema of the face is rather constant in

injections of the peripheral foramina, and occasionally hematomata result from the deep punctures, which is slowly absorbed.

"The result aimed at is the chemic resection of the painful branches of the nerve by the alcohol" setting up a degenerative neuritis which is transitory in itself as normal sensation returns without the pain.

The number of injections required for relief of pain vary from two to sixteen and relief or cure lasts from four months to three years.

Cures are more quickly had in those cases that have not undergone surgical operations, though relief has been secured from alcoholic injections when Gassereotomy and the Abbe operation had failed. The freedom from pain after injections is not as long, perhaps, as from peripheral surgical operations but reinjections can be so easily done that palliative relief can be had, if not, as some operators believe, a permanent cure.

When these patients fail to get relief from the alcoholic injections, and the advocates of this treatment believe that there very few cases of failure if alcohol reaches the nerve, they should not by any means be made morphine habitues as so many of them are, but have the intracranial operation as advised by Spiller, the division of the sensory root of the Gasserian ganglion, as performed by preference by Frazier, Kocher and Cushing as being less hazardous and more complete than total extirpation of the ganglion.

Hugh T. Patrick—*The Journal A. M. A.*, 1907, November 9, and 1909, December 11.

D'Orsey Hecht—*The Journal A. M. A.*, 1907, November 9.

O. Kiliani. *Medical Record*, 1908, January 18, and 1909, June 5.

Frederick V. Hussey, *The Journal A. M. A.*, 1909, August 28.

Frazier & Spiller, *The Journal A. M. A.*, 1904, October 1.

J. B. Murphy, *The Journal A. M. A.*, 1904, October 1.

Harry M. Sherman, *The Journal A. M. A.*, 1904, October 1.

DISCUSSION ON THE PAPER OF DR. SWINK.

DR. W. T. BLACK, Memphis:

My experience has been limited in the treatment of trifacial neuralgia. I have enjoyed this paper very much, but I can see why one might have some objection to the use of deep injections of alcohol or of osmic acid. I think the measurements would have to be very accurate when injecting around the great wing of the sphenoid bone, the length of the needle depending entirely upon the size of the patient and also the location of the different foramina. I can readily see how we might injure in some cases the small meningeal artery or the small petrosal nerve which comes through the foramen ovale, and I do not see why we may not puncture a vein going through the foramen of Vesalii if careful measurements are not made, also the middle meningeal artery which passes through the foramen spinosum may be punctured. Undoubtedly these injections afford temporary relief, but I do not think the relief is permanent. In some cases where the supraorbital nerve is involved, the operation of cutting down and dissecting up a piece of the periosteum and covering in the end of the nerve with periosteum is more permanent in its results.

DR. DUNCAN EVE, JR., Nashville:

My experience in reference to deep injections of alcohol has been limited to five cases, two of which have been cured. One patient has gone fourteen months without a recurrence of the pain. This patient received osmic acid injections and a screw and also a portion of the nerve was resected. That patient was injected two or three days straight, until the pain was relieved; then he returned to me about two months afterwards. I made the injections again, and about a month after that again. Since then he has gone fourteen months without a recurrence of the pain.

Another patient from Kentucky received the injections three times. He went three months each time, and now has gone nine months without a recurrence of the neuralgia. One case was a complete failure. The other cases improved a little. In making the injections I used the Patrick needle, but the needle I employ is dull. It reduces the amount of hemorrhage. With a

sharp needle one may do much damage in striking the middle meningeal artery. Previous to the introduction of the needle I use one quarter grain of morphine. I find the landmark, touch it with iodine, and inject sterile water, make a bleb, take a bistoury and make a puncture, and then take the needle and push it into the foramen. I use two cc. of alcohol in making the injection, which diffuses itself around the nerve. This acts very well. Doubtless some improvement can be made on this method of treatment of trifacial neuralgia, but it is the only one we have to afford relief to these patients. When a method like this will relieve patients of their neuralgia for periods of six and twelve months, it accomplishes great good and is worthy of trial.

DR. SWINK (closing the discussion):

I don't believe that deep injections into the foramina ovale or rotunda with osmic acid would do at all because it produces a necrosis of the tissue into which it is injected. When injected into the peripheral foramina through the mouth it produces necrosis of the foramen and is invariably followed by suppuration.

The first patient that I treated with alcoholic injections obtained complete relief after second injection and refused any further injections. This patient had suffered for five years with occasional periods of a few weeks' relief, and had become addicted to morphine. His physician sent him to Memphis for resection of the mandibular branch, but instead of going to the surgeon, he went to an old family physician, who advised him against any operation, extracted a tooth, and obtained relief for about ten days. He came to me and I injected the mental foramen about the twenty-eighth of August, and repeated the injection three days later. The third day after the second injection he came back, saying that he was relieved and refused any further treatment. He had suffered intensely, was salivated, unable to take solid food, and could not bear anything on the painful side of mouth, but after the second injection was able to take nourishment without any pain.

My second patient suffered with neuralgia of first and second branches, which was relieved after first injection of supra and infraorbital foramina, but supraorbital was injected second time.

THE SUBINVOLUTED UTERUS.

W. G. BOGART, M.D.

THE physiological changes which take place in the uterus after abortion, miscarriage, and labor at full term, return this organ to its natural size and weight. Anything which interferes with this physiological process results in what is known as subinvolution. When involution fails to occur from any cause after labor, fatty degeneration and absorption of the muscles and connective tissue of the uterus do not take place, and in consequence of this the organ remains in a hypertrophic condition for an indefinite period of time. It may be limited to the body of the uterus or cervix, but most often to the entire uterus. The uterine walls are thick and soft and increased in length; the endometrium congested and swollen; the uterine ligaments are also subinvolved and re-

main abnormally thick and elongated; the blood vessels remain increased in number and size, and the pelvic viscera is in a state of passive congestion. The uterus being heavy, and the ligaments in no condition to support the organ, it sinks lower and lower, and finally becomes retrodisplaced. Such are some of the pathological changes which take place, when the uterus fails to return to its normal condition after labor.

The causes are always of puerperal origin, and may be classified as follows: Septic or specific infection, laceration of cervix, or uterine displacement.

When the infection of the uterus takes place, arrest of involution follows at once, and if the disease is not controlled, subinvolution is always the result, and, in conse-

quence of this, various complications occur, which leave our patient in a very much crippled condition. It may be stated, therefore, that anything that tends to prevent a rapid diminution of the blood supply to the puerperal uterus, may be cause for subinvolution. Nature's only method of decreasing the quantity of blood to the puerperal uterus is through the agency of the contracting muscular fibers, and any condition that interferes with the contraction of the uterus will result in subinvolution. Subinvolution, by an excess of blood supply, may occasionally be traced to the presence of small fibroids throughout the uterine wall; in other cases, laceration of the cervix; peri-uterine inflammation, inflammation of the uterine body and of the lining membrane, usually results in sepsis. Retention within the uterus of placental fragments, shreds of membranes, blood clots, chronic constipation, too early getting up after labor, the use of ill-fitting bandages, or bandages of any kind, remaining on back too long period of time after confinement, all tend to interfere with the physiological process which takes place in the uterus and pelvis immediately after labor. I firmly believe that no bandage should be used at all while the patient is in the bed, and that she should be required to change from side to side to avoid the pressure on the large blood vessels supplying these organs, and forcing them to remain low down in the abdominal and pelvic cavity just after labor. The time for the use of the bandage is when the patient first gets up, which should not be a shorter period of time than ten to fourteen days after confinement. To avoid subinvolution is rather to be desired than to allow it to occur. The ruptured perineum and floor of the pelvis is frequently the cause of much trouble and distress to the patient, and is always followed by subinvolution

and other evil results, unless they are at once repaired.

Let us turn our attention to the symptoms of subinvolution.

They may be divided into local, general, and symptoms occurring by co-existing pathological conditions. The local conditions are lumbo-sacral pain, bearing-down sensation and weight in the pelvis, impaired locomotion and inability to stand any length of time without great inconvenience and pain, disturbed menstruation and frequently leucorrhoea.

The general symptoms are usually gastro-intestinal disturbance, which manifests itself by loss of appetite, constipation, dysuria, and occasional headache. The general health is most often impaired; the blood becomes anemic; there is a loss of strength and weight, and eventually, if not corrected, the patient becomes a neurasthenic.

Symptoms caused by co-existing pathological conditions are those due to uterine displacements, lacerations of the cervix or perineum, and any pre-existing pathology, such as fibroids, cystic degeneration, etc.

Diagnosis.—The diagnosis is usually made by history, symptoms, and physical signs.

The history in these cases is very important, and much care should be taken in getting the exact condition of the patient prior to her confinement. She may give us a history of good health up to confinement, with possibly a difficult and instrumental delivery, with slow and unsatisfactory convalescence, which leads us to suspect subinvolution; or there may be given a history of infection following labor, or by too early getting up, or some other imprudence, which has resulted in a line of symptoms present in subinvolution.

While all this is not conclusive, it goes a long way in helping us to make a correct diagnosis, for many of these cases that come to us, we must differentiate from

various other pelvic conditions. Symptoms taken alone are not characteristic, but when studied in connection with the history and physical signs, it adds another link to the endless chain of differentiating diagnosis. The physical signs which are obtained by the senses of touch and sight, together with the history and symptoms, are almost conclusive. By touch, which examination is made by the patient being placed in dorsal recumbent position, we find the uterus large in all directions, not tender to the touch, wall softer than normal; and if sound is used, the cavity is found to be materially increased. The cervix is usually not much involved, but slightly hypertrophic. The uterus may be found displaced; the cervix and perineum torn, the floor of the pelvis torn through. Careful palpation should be made to exclude tubo-ovarian lesions, fibroids, or other existing pathology. By sight we are able to corroborate what we have found by touch.

Prognosis.—This is usually good under treatment if the patient and doctor are persistent in carrying out the proper line of treatment, unless such a chronic condition is found to exist in the way of hyperplastic changes, with position of uterus fixed and the other pelvic viscera so thoroughly involved as to add a serious and dangerous outlook to our case.

Treatment.—The enlarged uterus and the co-existing endometritis are constant lesions of subinvolution, and, of necessity, must require treatment independent of the cause of the associated pathological conditions. In cases of subinvolution, where no complications are present, or where there are no associated pathological conditions existing, treatment is directed solely to the relief of the endometrium and enlarged uterus. When retro-displacements, lacerations of cervix or perineum are present, it is imperative that they receive attention, whether they be primary

or secondary. The indications, therefore, in the treatment of subinvolution are, first, to relieve the existing endometritis; second, to reduce the size of the uterus; third, to remove the cause of the associated pathological lesions.

To Treat the Endometrium.—It is accomplished by local application of iodine, glycerine, plenty of hot water used as a douche for twenty to thirty minutes, attention to bowels and general condition. Iodide of potash, iron, vegetable tonics, etc., are to be given as indicated; or if such will not relieve patient, an operation of dilatation and curetments of uterus is positively indicated and should be done under thorough septic precautions.

To Reduce the Size of the Uterus.—Local treatment and general treatment are to be considered. The patient should receive hot salt vaginal douche in dorsal recumbent position at least twice a day for twenty minutes. Twice a week the physician should remove from one-half to one ounce of blood with sharp-pointed instrument from the uterus, and apply tincture of iodine to vault and cervical portion of uterus, and introduce a wool or cotton tampon, soaked with glycerine, which should be allowed to remain in twenty-four to thirty-six hours. Local treatment should always be discontinued during menstrual period.

As to general treatment, this should be carefully selected to meet the individual case. From what I have previously said, we are not surprised to find our patient in bad general condition; such are the various forms of disturbance in the intestinal tract, followed by anemia, as well as often finding a general neurotic to treat. Hence the importance of a general line of treatment, along with local treatment, to get good results. Diet should be of the most nourishing kind, with plenty of pure water taken daily, for I think there is

nothing which tends in a general way to help out more than the drinking of plenty of pure water. The bowels should be kept thoroughly open every day, for any additional weight in the rectum would only add fuel to the fire already existing in the pelvis. A mild laxative, especially the salines, are especially indicated, as they tend to reduce pelvic congestion probably more than any other laxative. Plenty of open air and sunshine, with

plenty of encouragement from the physician, should be persistently carried out. Displacements, lacerations of the cervix or perineum, should receive such attention as to, as nearly as possible, put these organs back to their normal position and condition.

Amputation of the cervix or wedge-shaped portions removed from the cervix are recommended, and may be of service in some cases.

SCHALEK'S EPITOME OF DISEASES OF THE SKIN.

THE DISEASES OF THE SKIN. A Manual for Students and Practitioners. By Alfred Schalek, M.D., Professor of Dermatology, University of Nebraska; formerly Assistant Professor of Dermatology, Rush Medical College, Chicago. New (2d) edition, thoroughly revised, 12mo, 225 pages, with 47 engravings. Cloth, \$1.00, net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The second edition of this concise manual of diseases of the skin is designed as a ready reference book for refreshing the memory of the general practitioner on this important subject. The subject of dermatology has made rapid strides within the past few years, and this volume is designed to keep the general practitioner abreast of the rapid progress which is being made for the classification of and promotion of these not infrequent conditions.

General Consideration.—Under this head, a brief discussion of the anatomy of the skin, including its appendages, is given.

General Symptomatology.—Under this heading the constitutional, local, primary, and secondary lesions and descriptions of terms for lesions is set out. A graphic series of illustrations of primary and sec-

ondary conditions, illustrating the various forms by which this can be easily impressed upon the mind of the reader, is given on page 22.

Some General Rules in Dermatology.—Offer some valuable suggestions as to the method of examination and general suggestions as to cleansing and the use of various remedies. Each disease is stated and the various synonyms are given by which it is known to the profession at large, and its definition clearly, concisely stated where there are several varieties. The characteristic, differential points are given, a brief outline of its pathology as well as etiology, both predisposing and exciting factors, and then the diagnosis. The question of treatment, which is not infrequently the most sought-for question, by the general practitioner, is stated in simple, direct, and easily-understood language, both as to systemic and local treatment. Wherever prognosis is of importance, it is given. The discussion of each subject is followed by a series of questions. The book is well illustrated and seems to be one which should commend itself to the busy practitioner.

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STATE BOARD OF MEDICAL EXAMINERS OF TENNESSEE.

TWENTY-FIRST ANNUAL REPORT.

C. A. ABERNATHY, M.D., SECRETARY.

THE report submitted by the Secretary is for the year 1909, and shows that during the year 284 applicants were examined, 277 being granted permanent licenses. Three were granted temporary license, and four applicants were rejected. Examinations were held upon the following subjects: Anatomy, Physiology, Materia Medica, Pathology, Chemistry, Obstetrics, Surgery, and Practice of Medicine. The percentage of failures is quite low, and would indicate a marked improvement in conditions as to previous preparations. The Board is of the opinion that from this time on "only graduates of reputable medical colleges should be given permanent license to practice." The Board reports as follows:

"Tennessee now has one doctor to every five hundred population, and there is no longer shortage in doctors, but an overplus of them, and the colleges and State Board should raise their standards."

Tennessee has arranged for reciprocity with the following States: Kentucky,

Georgia, North Carolina, West Virginia, Maine, Nebraska, Kansas, Oklahoma, Wyoming and Utah. The general requirements necessary are as follows:

"Applicant must be a graduate of a reputable and recognized School of Medicine; must live one year and practice for that time in the State granting him license; must be a member of County, State and American Medical Association; must be moral and ethical in his professional career; must obtain his license by examination from the first State Board and comply with all the requirements, to be exacted by the Board of the State he applies to for reciprocity."

These are very important points, and should be held in mind by all who seek reciprocity, for it seems that some have joined County Societies and within a few months make application for reciprocity. From the report, it would seem that County Court Clerks are slow to report the registration of physicians in their counties, and it seems difficult to have this promptly done by the County Court

Clerks, as only thirty-two out of ninety-six had reported to the Secretary of Board of Examiners when this report was made. From the report it is evident that quite a number of old practitioners who are entitled to registration without examination

under the Act of 1905 have failed to avail themselves of this legal provision, and consequently some of them are under indictment. This should not be, as all physicians entitled to registration should be registered.

THIRTY-FIFTH ANNUAL REPORT OF CITY HEALTH OFFICER OF THE CITY OF NASHVILLE.

We are in receipt of this valuable contribution, which shows the constant effort which a city must make, to maintain its sanitary and healthful conditions at all times. It is only by constant effort, vigilance, and a competent corps of physicians and inspectors that this can be accomplished. The city of Nashville, through its health department, demonstrates what can be done when the work is thoroughly systematized and organized so that the various duties and responsibilities are properly cared for by the various heads of departments. Every officer of the city should be impressed with the fact that he is a health officer; then the work becomes one of constant interest, and consequently always attended to promptly. The city water supply has been put in such condition as to render it one of the best in the country.

The total number of deaths in the city of Nashville for the past year was 1,990. Of this number, 100 were nonresidents, showing a total number of 1,890 residents. Of this number, 950 were white and 940 colored. The death rate per thousand for whites was 11.56; colored, 19.37; total average, 14.46. From these statistics it will be seen that the white death rate is not high, but that the increased death rate is due to the presence of the colored citizen, and this is one of the problems which confront the health authorities of South-

ern cities where the negro population is an important factor.

The city is prepared to make investigation of cases in which tuberculosis, typhoid fever, diphtheria, and other transmissible diseases are suspected, and this has proven of great advantage to the city and profession. The protection against the spread of typhoid fever is made prominent by the fight against the "typhoid fly," and much good has been done along this line. The milk supply of a city is one of the most important factors, for upon the milk, in a large measure, depends the health, especially during the summer, of its infant population. Since the beginning of milk inspection in the city, the milk supply has greatly improved, and the benefit derived from milk inspection during this season has been most pronounced.

The City Board of Health consists of five physicians, two druggists, one meat and live stock inspector with an assistant, a market inspector, a disinfecter, and eight sanitary inspectors. To this Board, consisting of twenty experienced men, are referred all matters pertaining to the general health of the city, while every physician is, by reason of his profession, an adjunct of the Board. To these collectively and individually, are due the thanks of the citizen, not only of the city, but of the surrounding county, for their constant, careful and efficient service.

TOPICAL MEDICINE.

DR. F. M. SHOOK, Medical Corps, U. S. Navy, has been detailed to conduct lecture and laboratory courses at the New

York Post-Graduate Medical School, during the months of August and September.

BOOK REVIEW.

SPONDYLOTHERAPY. Spinal concussion and the application of other methods to the spine in the treatment of disease. By Albert Abrams, A.M., M.D., San Francisco, Cal. Cloth; 420 pages; 100 illustrations; price, \$3.50. The Philopolis Press, Suite 406, Lincoln Building, San Francisco, Cal.

Under the treatment of this subject, which is comparatively unknown to the general practitioner, the author has attempted to place the therapy of the spinal cord upon a plane coincident to our more extended knowledge of the spinal cord and its functions, as we understand them today. It is a subject that requires the closest scrutiny of competent investigators in order that its application may meet with success, and the author has considered at length and in detail those measures and method which, in his experience, have been of service in reaching conditions

referable to disturbances of spinal cord. The discussion of this subject is based upon the anatomic, topographic and physiologic data, as to the structure of the cord, roots and distribution of spinal nerves, anatomic landmarks, the sympathetic system, the general physiology of the cord, and the localization of the functions in different segments of the cord. It would be difficult without special information and experience as to the practical outcome of the suggestions and methods of treatment as contained in this discussion, to pass final judgment, but it is just to say that the subject is presented in such a manner as to make it both entertaining, interesting, and above all, worthy of the serious consideration of those who are competent and prepared to undertake such lines of treatment.

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All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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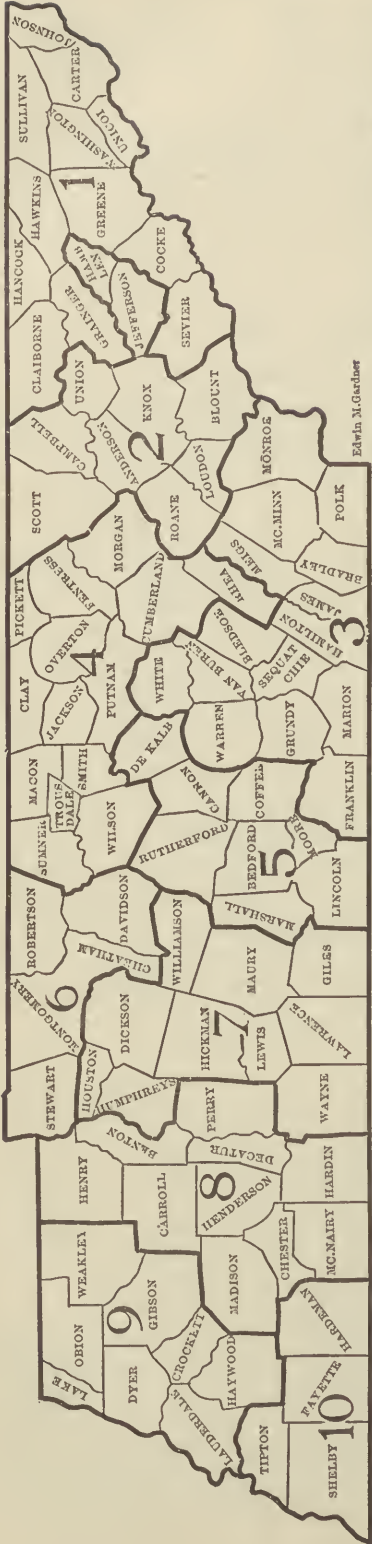
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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SALPINGITIS—ITS TREATMENT.

J. HUGH CARTER, M.D., MEMPHIS.

THE diagnosis and treatment of Salpingitis is one of the most important ailments we have to treat, not only to the gynecologist, but to the general practitioner of medicine.

It is one of the diseases, if diagnosed in time and properly treated, gives the best prognosis; I might say, like most diseases in that respect. To that end I shall classify salpingitis as:

1. Catarrhal Salpingitis.

2. The acute Salpingitis without undergoing suppuration.

3. Suppurative Salpingitis.

The etiology or cause of salpingitis should be classed under two heads:

1. Predisposing-favoring conditions.

2. Exciting causes.

- (1) Under the predisposing, we have:

1. Abortion, labor, instrumentation and manipulations.

2. Infections of adjacent organs which may reach the tubes by extension. Tubal disease is rarely primary.

3. Menstrual congestion, violent exercise during menstruation and taking cold during menstruation.

4. Acute exanthemata.

5. Neoplasms.

- (2) The exciting or direct causes are bacterial or infections, which are most frequent: The Gonococcus, Streptococcus, Pneumococcus, Coli Communis and mixed. The pathology is about the same in all forms of salpingitis. That is, the

catarrhal form follows, catarrhal endometritis, and the purulent, purulent endometritis.

The infection may be from without, conveyed by or through the lymph channels. There is very little difference between the acute and chronic save the time and degree of the inflammation.

Any of the above forms may become, under certain conditions, either hydrosalpinx, haematosalpinx and pyosalpinx. Usually when the inflammation has gone this far, or rather, we doctors have permitted it so, there are extensive adhesions taking place between the tubes and the adjacent organs, especially the ovaries. Therefore, we may find both the tube and ovary rolled together as one mass in the posterior folds of the broad ligaments. This we might say is nearly always confined to the suppurative form.

SYMPTOMS OF SALPINGITIS.

Some one has said there are no pathognomonic signs of salpingitis, to which I cannot agree. Heretofore, we have associated ovaritis and pelvic-peritonitis with salpingitis, or in other words, we were not justified in saying a patient had salpingitis until the symptoms of ovaritis or pelvic-peritonitis had developed.

That is, salpingitis had been undiagnosed and untreated, I might say properly, until the disease had gone on until the above conditions had developed.

I believe, with a complete history as to previous abortions, instrumental deliveries, acute or chronic infection in neighboring organs as endometritis and appendicitis, with the patient complaining of dull, often burning constant remittent or intermittent pain and local tenderness; the colicky pains about the tubes during or just preceding menstruation with intervals of comparative comfort: Dismenorrhea with increased menstrual flow even to the extent of menorrhagia, which is very common.

All these symptoms or signs are increased if the patient is on her feet a great deal or does much household work, or if the patient exercises in any way to any extent.

The above symptoms apply especially to the catarrhal form, but I might say, the acute with or without undergoing suppuration are the same, save that they are acute in character.

Finally a careful examination of each patient, especially by bimanual palpation, we can usually trace the tubes from their uterine attachments and find they are hard, indurated, enlarged and tender on pressure; very frequently they are tortuous. A large mass about the middle of the tube indicates a pyosalpinx.

TREATMENT.

The treatment of salpingitis, I believe, becomes more nearly being strictly a medical one than any of the diseases of the generative organs. That is, they should be treated early by the family physician which should be expectant in nature: absolute rest in bed for the acute form in the recumbent position, hot sterile or salt water vaginal douches, at least one gallon night and morning. Hot fomentations over the lower part of the abdomen but in no instance should we purge our patient. Morphine, grains, $\frac{1}{8}$ every four hours, if necessary to relieve pain, and

give no food or anything by mouth for the first three or four days, save a little water if patient is very thirsty, for fear of increasing intestinal peristalsis thereby causing the inflammation to extend into the broad ligaments, or peritonium, causing a cellulitis or peritonitis.

If the inflammation goes on to suppuration, under this treatment, it will become walled off and then the tube can be removed by the gynecologist without any, or comparatively no danger to the patient.

In most acute cases, when treated as above outlined, in bed from one to four weeks, will recover spontaneously or the inflamed tube will undergo complete resolution.

Salpingitis undergoing suppuration is strictly surgical, and as soon as the symptoms have subsided and the pus well walled off should be removed by the abdominal route, and not by vaginal puncture.

In some instances, where the tube is very low in Douglass' Pouch, we may puncture by vagina for temporary relief, as we know that puncturing or incising cavities or cysts lined with mucous membrane, very rarely heals but leaves a mucous sinus. Therefore, it necessitates a second operation.

The catarrhal form should be treated by having the patient go to bed for ten days to two weeks, with hot vaginal douches of sterile or salt water night and morning. Glycerine or ichthyol tampons each night to be removed the following morning. Then we should curette the uterus thoroughly with a sharp curette, following by swabbing out the uterine cavity with equal parts of iodine and carbolic acid, and where there is considerable subinvolution, I pack the uterine cavity with iodoform gauze for three or four days. Then continue douches and tampons as before for another two to six weeks. This

is really the treatment for chronic endometritis.

It goes without saying, if there are displacements or lacerations of the uterus, these should be repaired in order to cure the patient. Systemic treatment should be given if necessary and all sexual relations should be discontinued for two months, at least.

By carrying out this form of treatment I have cured more than one patient of salpingitis after she had been advised to have her ovaries and tubes removed and has since become a mother. Therefore, I would advise in all cases, save pyosalpinx, conservative medical treatment before operation.

To sum up:

First.—We should get a careful history from the patient.

Second.—Careful examination.

Third.—A careful diagnosis.

Fourth.—First, thorough medical and hygienic treatment of the acute form of salpingitis.

Fifth.—Catarrhal form, which is usually due to some abnormalities of the generative organs. These should first be treated and then the salpingitis.

Sixth.—The suppurative form, or pyosalpinx, should be operated on at once, or as soon as inflammation has subsided, by the abdominal route.

DISCUSSION ON THE PAPER OF DR. CARTER.

DR. W. T. BLACK, Memphis:

The subject of salpingitis is certainly a very timely one. It is a condition quite frequently seen in gynecological and obstetrical practice, and deserves a great deal of consideration. Undoubtedly in the beginning of these cases strictly medical treatment should be instituted. The treatment of catarrhal salpingitis, or salpingitis as the result of a constitutional trouble, is quite different from salpingitis following an acute infection, either from instrumentation or following an abortion or miscarriage. In these later cases we have a streptococcus, or staphylococcus

infection, which are usually a very severe infection. In other cases we have gonorrheal infection following suspicious intercourse. The principal thing in connection with salpingitis is to know how to treat the patient, whether to operate now or wait. Undoubtedly in these acute cases we should not operate at once. If the infection is due to streptococci or staphylococci, and there is an abscess opening down into the broad ligament or in the pelvis, I think drainage by the vaginal route will be of great benefit. Sometimes these cases get well without operation—or, at least, symptomatically well. I have now two patients—one who has a baby a month old, and another a baby two months old—who had an acute infection of the tubes, with a large mass on the left side a year and a half ago, but the infection only extended to one of the tubes. These cases get well occasionally without operation, even when both tubes are infected. Salpingitis is frequently gonorrheal in origin and the gonococcus travels along the mucous membrane, affecting principally the tube and ovary. In the case of streptococcus infection we have the cellular tissue or the parametrium becoming involved, and consequently we have a very formidable condition to deal with. We have another reason why we should not operate during the stage of acute inflammation; we have an inflammatory exudate, accompanied by adhesions, taking place, which will prevent absorption of the toxins; and again we know in acute anemia and inflammation we have acetone and acetic acid present in the urine. We know that we may have renal, cardiac and hepatic insufficiency if we operate on these patients during the inflammatory condition. The best treatment would be to wait and do an interval operation. I think we should follow the advice given by Simpson, who reports four hundred and sixty-five cases with a mortality of less than one per cent. He waits three weeks, until the fever has subsided; in other words, the fever must be absent three weeks before he operates. The pus found in these chronic cases is sterile in over fifty per cent of cases at the time of operation. It is important to study the different times at which the pus becomes sterile. In gonococcal infection it has been proven that the pus becomes automatically sterile in from three to four months in a large per cent of cases, and in other cases it becomes attenuated in this time, and in some cases in a much shorter period. The streptococcus may continue to be virulent for a much longer period of time, and we should wait until

we have given nature time to render the patient safe for operation, or until the pus has become sterile. In these cases of septic or specific salpingitis we not only find the tube involved, but in a large per cent of cases the ovary is infected, forming a tubo-ovarian abscess, which may later undergo cystic degeneration. In patients with extensive adhesions, where it is necessary to perform a double salpingo-oophorectomy, the uterus should be suspended, for if allowed to drop back when the adhesions have been liberated, it will become fixed and cause trouble. I have used Ochsner's method of suspending the uterus in a large number of cases with satisfactory results. In some cases it is better to remove the body of the uterus. I have had occasion to operate on several cases in which I have removed both tubes and ovaries and the uterus has dropped back into a mass of adhesions and become adherent, and if we follow the advice of Ochsner, of suspending the uterus, we will give nature time to seal over the adhesions which have been broken up and prevent adhesion of the uterus.

DR. L. E. BURCH, Nashville:

This is a very important subject and it is one that it is impossible to deal with in a five-minutes' discussion. It is a condition that the general practitioner meets with more frequently than the specialist.

The direct cause of salpingitis is infection. There are many predisposing causes. It is impossible to differentiate salpingitis from oophoritis, endometritis and peritonitis—that is, eliminating a tubercular condition. Where you find one you usually find the other. A patient with salpingitis usually gives this history: She has been perfectly well, is delivered of a child, and in the course of time trouble develops. On the other hand, she may have been perfectly well until marriage. In other words, salpingitis is an ascending infection. It begins below; first involves the endometrium, spreads to the tubes, and then to the ovary and to the peritoneum.

As to treatment, in the acute stages of salpingitis it is palliative. The patient should be put on a liquid diet; starvation is better. She should be placed in the Fowler position or the exaggerated Fowler. Hot vaginal douches and cold applications to the lower abdomen are indicated. If, after carrying out this treatment, the patient's symptoms, instead of subsiding, grow worse, then operation is indicated. In acute salpingitis in the great majority of cases one can usually obtain temporary results by palliative

treatment. There is one point to be remembered, and that is after the acute attack is over with, and the patient is again on her feet, I believe then is the time for an operation. In other words, we should operate in the interval. If you can carry the patient over to the interval you are not forced to operate in the face of an acute infection. At this time you can do a great deal for the patient. First relieve the patient of the endometritis by curettement, open the abdomen and treat the conditions as they demand. Remove the diseased condition, but in a woman that is in the child-bearing period, by all means leave an ovary or piece of an ovary, if it is possible to do so. Even if it is necessary to remove the uterus, if possible leave a portion of an ovary, so as to get the advantage of internal secretion, and not hurry on the artificial change of life.

DR. CARTER (closing the discussion):

I appreciate very much the discussion that has been given my paper, but the main feature I wished to bring out was the medical treatment in this form of salpingitis. I stated in my paper very clearly, I thought, that if the condition went on to suppuration, where an abscess forms, the only treatment was operation. But the question I wanted to bring before this association principally was early diagnosis and the early medical treatment of salpingitis to prevent the very thing the doctor spoke of—namely, cellulitis and peritonitis.

I cannot agree with Dr. Burch that we cannot make a diagnosis of salpingitis before the inflammation extends to the ovaries and to the broad ligaments or the cellular tissue. Gynecologists operate on these patients after they have been treated medically and find that they have no adhesions and no sign of any inflammation in the broad ligaments or ovaries; yet if the inflammation goes on, where you have a cellulitis, where you have an ovaritis, such as the doctor says, you have tympanites, etc. In these conditions I do not believe we ought to give the patient anything by the mouth, as feeding the patient causes increased peristalsis, and this, in turn, causes extension of the inflammation. If you open the abdomen and go in and find a double salpingitis and both tubes have to be removed, I do not believe we are justified in leaving the uterus. In all operations, wherever possible, we should leave both ovaries—if not both ovaries, one ovary or part of one ovary—for the benefit of the internal secretion. In these cases, when the infection is bilateral, it is

generally due to specific trouble. The acute form of the disease is bilateral and involves both tubes. I want to call special attention to

the treatment of the catarrhal form of salpingitis, and that is the treatment of endometritis first, and they usually get well.

THE SURGICAL ASPECT OF EPILEPSY.

G. G. BUFORD, M.D., MEMPHIS.

THE name given to a diseased condition should always express some characteristic of either its pathology or clinical phenomena. Epilepsy does not come up to the standard in either case, and hence should be discarded or embalmed in the memory only as a relic, typical of the knowledge of the condition intended to be designated by the term at the time it was so designated. The same is true of the classification of petit mal and grand mal. They express neither an idea of the pathological condition nor clinical history. In medicine, as in the arts and sciences, it is easy enough to be an iconoclast, but quite a different matter to replace the broken idols, rendered sacred by their associations, by terms or names that measure up to the standard. The condition of the brain designated by the above terms is one of cortical irritability.

The condition of the cells in the gray matter that renders them responsive to irritants to a higher degree than normal, is that it takes less of the irritating substance to produce an abnormal response.

Then a more definite nomenclature would be psycho-cortical irritability, motor-cortical irritability and psycho-motor-cortical irritability. Psycho-cortical irritation, then, would locate the diseased area in the cortex of the fore brain, whose phenomenon would be seen as that resulting from irritation of the cortex of the fore brain, or purely mental, and in phenomena that are classed under the head of petit mal and motor cortical, would locate the diseased area in

the cortex of the motor region or around the fissura of Rolando and hence show motor phenomena. Psycho-motor would locate the lesion in both the fore and middle brain and confined to the cortex give the clinical picture intended to be expressed by the term grand mal. We have in the cortex of the brain the same results following the inflammatory conditions as in the nervous tissue elsewhere. Inflammation of nerve tissue whether resulting from traumatic or toxic conditions, may be classed under three heads, viz.:

Exudation Absorptive.

Exudation Formative.

Exudation Destructive.

In the exudation absorptive lesions we have the exudate cared for, leaving little or no injury to the brain cells.

In the destructive class we have a destruction of the cells, and neuroglia, resulting in paralysis of parts which receive their enervation from the destroyed area.

In the exudation formative class we have the exudate undergoing organization and obeying the law of neoplastic or cicatricial tissue and which is to contract thereby constricting the cells and interfering with functional activity rendering them more irritable. It is, then, this class of lesions that causes the cells to act abnormally, and denominated epilepsy. This exudative formative condition usually follows slight cranial injuries and meningeal inflammations; slight traumatism usually producing circumscribed lesions and manifested as psycho-cortical or mo-

tor-cortical irritations; while meningitis usually involves the entire cortex, and results in the third classification of psychomotor irritation. The lesion resulting from traumatic inflammatory conditions is generally circumscribed. This area being more irritable, responds first to an irritant or toxic agent, and we have the so-called Jacksonian sign, and properly interpreted, maps out the operative field. Clinical results have demonstrated the fact that little or no good comes from operative procedures, when two or more years have elapsed from the time of the injury, even when there are prominent Jacksonian signs. Now, in all head injuries that are followed by any degree of shock, loss of consciousness, mental confusion lasting more than a few minutes or sensory or motor disturbance, there should be a close examination made of the cranial bones and proper surgical proceedings done at once, if there is any depression or a continued mental, sensory or motor disturbance. We should remember that often the degree or extent of the scalp wound is out of proportion to the amount of injury done to the cortex, that indications for interference are evidenced more by the brain disturbance than by the open wound. To illustrate some phase of what I have said, I have selected the histories of three patients—*Bennington Pharmacist, Girl, Boy.*

When the *Bennington* was accidentally blown up at San Diego, Cal., the pharmacist was hurled through the roof of the boat, and head was badly crushed, over a large area, and cortex of brain badly contused, especially on the right side. Trephining was done as soon as possible, within an hour or two at least after the accident; a large piece of the skull was removed, but the dura was not incised. The patient made a prolonged, uneventful recovery. Epilepsy developed in a few months. The party was taken to Chicago

to Dr. Senn, who, thinking perhaps that the injury was on the left side of the brain, removed almost the entire left upper part of the cranial bones, he, also, not breaking up the cortical adhesions. This man fell on Main Street in this city with a convulsion, and was sent to the City Hospital, where I saw him. He had only a central strip of bone about an inch wide connecting the frontal and occipital bones. Pressure over this area from which the bone was removed, he stated, would precipitate an epileptic seizure. There was still cortical adhesions.

A case is here in the city, the wife of a prominent gentleman. She was assisting in moving some furniture, when her head was caught between a bureau and a wall, and was bruised not enough to cause her to discontinue her supervising the moving of her furniture. She was paralyzed from the pressure of the hemorrhage of second or formative class. The skull was trephined, the dura incised, the bonds of adhesion were broken up. Her partial hemiplegia continued, but her epilepsy was relieved.

Illustrating another class of injuries to the head, which also came under my care, and was operated on twice, once by myself and Dr. Brevard, and once by myself and Dr. Holder. The girl was eleven years of age when I first saw her. There was a history of a fall some seven years previously. The child fell from a low roof, but got up at once, walked home some two blocks, giving no evidence of pain or injury. She had high fever next day, and convulsions, followed, evidently traumatic meningitis. This condition continued for several weeks, recovery being slow. Epilepsy was manifested some two years afterwards, or about thirty months after the fall. The child was a well-fledged kleptomaniac. There was a history given of Jacksonian signs in the right arm, which was the index to the operation field. The

center for the right arm was mapped out and the bone removed over a small area. When the bone was removed, there was found pressing on the brain a thin, hard substance, which, when removed and placed under the microscope, proved to be osseous tissue, evidently of dural origin. The child did well for a short while, so far as her epilepsy was concerned, but her kleptomaniac propensity seemed to be increased. The head nurse, when making her report, stated that there was a marked improvement; that at first she stole only small things, but that she had just found most of the silverware of the hospital stored away in the chiffonier drawers of her room. Her epilepsy returned, and thinking that the pressure had not been relieved from the entire area, I got Dr. Holder to remove a large piece of bone one and a half by two inches, enlarging the field of the former operation. Her epilepsy or stealing propensities were both increased, and she is now in the insane asylum.

Another case to report, and one that seems to be cured, has a history of slight traumatism. While running and playing at school, the boy fell, striking the right frontal bone on a root. He was slightly stunned for a few minutes, but soon got up and went on with his play. Some two or three months elapsed before there was any evidence of any untoward results. He then began to suffer, showing evidence of mental confusion or psychical epilepsy. Dr. Holder elevated the entire area of the forehead, which seemed involved, merely lifting the cranial bone and leaving it elevated. His mental condition and facial expression began to improve almost as soon as he was over the effects of the anæsthetic. This operation was performed in November, 1909, and he has had only one slight return of his former mental confusion.

DISCUSSION ON THE PAPER OF DR. BUFORD.

DR. DUNCAN EVE, Nashville:

This paper by Dr. Buford is upon a subject in which we are all very much interested. The fact of the matter is, brain surgery has recently been given quite an impetus, due, perhaps, to more than any other one cause, the improved technique of Horsley, of England, and Cushing, of Baltimore. It is destined, in my opinion, to become one of the great specialties in surgery in the next decade or two.

Formerly it was thought epilepsy was due to compressing influences alone, and not so much to certain irritative causes, as we now know produces the unfortunate trouble. Thephining is much oftener resorted to now than in the recent past, but not so often as done by our forefathers, for it will be remembered in older days that Chadburn trephined Philip of Nassau twenty-seven times for the relief of epilepsy.

From a surgical point of view cases of epilepsy are either traumatic or non-traumatic. Those that are traumatic do not make their appearance until some months or even years after the accident, and the earlier attacks are not only less frequent than the later ones, but are often unattended at first by loss of consciousness (*petit mal*), and only after a time become fully developed epileptic attacks. There is every reason to believe that even slight accidents may sometimes produce epilepsy, by the formation of a cicatrix on the dura. Often in such cases there will be lesions of motion and sometimes of sensibility, dating back to the time of the accident. In compound fractures, a portion of bone may remain depressed, and by irritating the underlying cortex cause epilepsy. Many surgeons advocate radical treatment at the time of injury, and thus interfering in the way of prevention of epilepsy, rather than take the chances of allowing it to set in and then trying to remedy the trouble.

Sometimes the cicatrix on the scalp is tender, or the seat of radiating pains. Pressure on it may produce a convulsive effort, showing it in turn is the cause of trouble. Again, as a result of the injury, a sarcoma, fibroma or other form of tumor may develop, which itself will cause epilepsy.

In those cases in which the lesion lies over a well-known cerebral center and all the usual symptoms manifest, trephining is done with great expectations of relief. These cases are so distressing that we are in the habit of giving them the benefit of what might be determined

an "exploratory trephining." In all such cases the dura should be opened, even though it be sound, in order to inspect the brain. If the cicatrix be found sub-dural, it should be excised down to the white tissue. In such cases it is of the utmost importance to remove all the damaged tissue. In effecting this removal it is important to remember that we can extend the incisions in an antero-posterior direction much more freely than in a vertical one; for in the vertical direction we are more apt to encroach on other motor centers. It is not usually necessary to go deeper than the gray substance, as it is rarely a scar or other lesion is of greater depth. If any of the dura has been removed, its place should be supplied by the pericranium. Drainage, as a rule should not be provided, and experience has shown it is best not to replace the button or pieces of bone; this, as yet, however, is an open question.

We are sorry the essayist did not have time to present the operative technique he follows.

DR. JERE L. CROOK, Jackson:

I regard this subject as one of great importance and one at present which looms large in the surgical horizon. The abdomen has obtruded itself beyond the brain to such an extent that many of our most brilliant surgeons have neglected it and spent their entire efforts upon the abdomen. When we have a pathologic condition in the abdomen, with a pair of scissors, as I have seen Morris do, we can enter the abdominal cavity, or with one or two strokes of the scalpel the field of operation is before us, and we can easily see why it is the abdomen should receive a greater amount of attention.

That is one reason, and the other reason is the result of operative work in the abdomen has been more brilliant in life-saving than operative procedures upon the brain. The fact that we have a bony cavity, requiring skill to enter, and the other fact that we have a structure that we do not know much about, which is so easily injured with disastrous effects, account for the reason why the brain has lagged behind in securing the services of the most brilliant men in the country. We are indebted to one or two Americans for nearly all the modern work on the brain, particularly the work of Cushing, of Baltimore. As you probably know, Dr. Cushing operated on our friend, the lamented Dr. Happel, and it was my privilege to visit him a number of times in his illness and to correspond with Dr. Cushing with reference to this case. Dr. Cushing did a decompression operation on

Dr. Happel and removed a brain tumor from the speech center. Dr. Happel was present at the meeting in Memphis a year ago last fall. At that time he had been troubled for nearly two years. He would have difficulty in articulation. A diagnosis of tumor of the speech center was made. He went to Dr. Cushing. Dr. Welch was called in consultation, and these two distinguished men examined Dr. Happel, and after four days Dr. Cushing consented to operate on him. Dr. Cushing hesitated until Dr. Happel insisted. He laid back an osteoplastic flap and examined the entire speech center and motor area of the left side. He removed the tumor so easily that great hope was expressed for Dr. Happel's recovery. He expected a brilliant result, far better than when he started the operation. Unfortunately, the operation did not prove to be what was expected, and after the doctor returned to Tennessee he never recovered his speech beyond a whisper. His paralysis continued, except once or twice he had a slight grip in the right arm. Failure to recover was due to the fact that the tumor removed from the speech center was a glioma and it had extended so as to involve both the motor region and speech center, and it was impossible to have removed it all without the patient dying on the table or without leaving him a hopeless invalid. It was extremely unfortunate that a man who contributed so much to the history of medicine in Tennessee should have died from such a condition.

In reference to the technique of Dr. Cushing, very much to my surprise he showed no particular brilliance in his method of gaining access to the brain. By brilliance I mean he does not have any electrical apparatus, or specially constructed instruments, to get into the brain, as one would expect he might have. In doing an osteoplastic bone flap he takes an ordinary brace and bit, makes four or five holes, uses a chain saw, saws between the holes and breaks it in the simplest manner possible. After he gets in there it is then he shines. I saw the most brilliant work by him in various cerebral conditions. It seems to me a man should not undertake to operate on a case of traumatic epilepsy unless he is prepared to do quite an operation, one that will expose the field, and he cannot do that through an ordinary trephine operation. He cannot apprehend the conditions present. He cannot study the relation of the dura to the brain and cannot determine whether he has irritation or adhesions, and any operation which fails to incise and lay back a dural

flap is not complete, because, as the essayist has said, adhesions are the cause of the trouble, and unless one gets below the dura and opens it up, he has not really done a complete operation and cannot expect a good result. It occasionally happens in a case where injury of the brain has been so recent as not to cause serious irritation of the cortex, that by removing a bone flap and relieving pressure one may expect to secure a favorable result; but where the brain has had the opportunity to undergo a serious change or is the seat of considerable irritation, nothing short of a complete operation of lifting a dural flap and thoroughly examining the brain itself and removing all irritating points will suffice.

This paper is, to my mind, one of great interest. My experience is rather limited. I operated recently on a man, and while he recovered, I used specific treatment at the same time. He had some convulsions after the operation. He gave a history of syphilis, which I learned after the operation. I immediately put him upon large doses of iodide of potassium, and the man is practically well. I operated on him eighteen months ago. He has not had an attack for six months.

This is a field of work that offers many inducements to the modern surgeon, and it is one that merits our careful study and consideration.

DR. JOHN A. WITHERSPOON, Nashville:

As has been said, this is a very interesting subject. I feel, however, that while the surgeons have done a great deal for us, until the etiology and pathology of epilepsy are known more of, it is a difficult question to say just how far surgery should go. With reference to operating for Jacksonian epilepsy or traumatic epilepsy, so-called, I have had such cases operated on, but I have not seen brilliant results from operative procedures. Of the cases that were operated on, one went for a year or more without an attack, and my colleague, Dr. Eve, operated on a boy many years ago who went for some time without an attack, but his old attacks returned.

I was struck very much this summer in London in seeing Victor Horsley operate on the brain. There were two things that impressed me very much indeed. One was the very thorough work that was being done in this line, and which is being done by the gentlemen in this country, and the other was the absolute indif-

ference to the loss of brain substance. In searching for a tumor I saw Victor Horsley take out something like two tablespoonfuls of brain substance, throwing it aside in searching for the tumor. I do not know just what we are to expect from the removal of such a large quantity of brain substance, and for that reason I was very much impressed with the loss of blood and the loss of brain substance in his thorough operative work. He is a pioneer in this work, and if our brother surgeons can possibly add anything to the treatment of epilepsy, which has been practically the *beco noir* of the profession for many years, they will have conferred more upon us as general practitioners than they have ever done in the belly, and that is a large debt we owe them.

DR. BUFORD (closing the discussion):

This subject is one of paramount importance to us as individual practitioners. As to the technique of the operation, that is to me of minor importance, so long as we make the field large enough, and the points I wanted to emphasize in the paper were that epilepsy was an irritative trouble confined absolutely to the cortex. Any injury below the cortex of the brain does not produce epilepsy, but produces paralysis. Anything that destroys the cortex of the brain produces paralysis. Anything that irritates an already irritable center in the brain produces contraction of the muscles that get their nerve supply from that part of the brain. The important point is to make an accurate diagnosis as to the location of the point of irritation or the point in which you have the irritation; that this is similar to cicatricial tissue and that when cicatricial tissue has existed for a certain length of time there is a condition in which repair does not take place. There is no resorption of the exudate; it is a formative tissue, and it is useless to operate. This may take place within eighteen months or two years after the inception of the injury. We must remember that a cortical irritation must be attended to at once, and my advice in teaching along this line is always to make an incision down to the skull and see what trouble you have there—see if you have any indentations, or any evidence of mental disturbance or motor disturbance, and if there is trephine at once. Do not wait for epilepsy to occur. An ounce of prevention is worth more than a pound of cure in preventing epilepsy and in being able to cure it.

THE TREATMENT OF ACUTE AILMENTS OCCURRING IN PERSONS ADDICTED TO THE HABITUAL USE OF NARCOTIC DRUGS.

GEO. E. PETTEY, M.D., MEMPHIS.

THE fact that death is almost certain to be the result of an acute ailment such as typhoid fever, pneumonia, or dysentery when these ailments occur in one who is addicted to the habitual use of a narcotic drug leads us to inquire as to the reason for this high mortality. Every internist is occasionally called upon to treat acute ailments of various kinds occurring in persons addicted to use of narcotics and in such persons these ailments present some very knotty problems which they do not present when they occur in persons not so addicted, therefore we would ask in what way and to what extent does the habitual use of the narcotic modify the acute ailment? Does it increase or decrease its severity? To what extent and in what manner will habitual use of the narcotic modify or interfere with the use of remedies used in the treatment of the acute ailment? How will it affect the prognosis? Shall the narcotic be continued or withheld during the treatment of the acute ailment? If continued, how? If discontinued, how is that to be done? These, as well as other equally perplexing questions, confront every one who is called upon to treat patients of this class when attacked by an acute ailment, and his success in such undertakings depends largely upon his ability to solve these problems.

In an effort to find answers to these questions, it is necessary to consider the effects morphia has upon the system. At the very beginning of its use, the first dose brings about a state of quietude or torpor, accompanied by diminished excretion of

the products of waste. In the course of from six to twelve hours these effects of the dose subside, and the functional activity of the system becomes normal, and possibly excretion is carried on at an accelerated rate, but it requires several days for this increased activity of the excreting organs to free the system from the products of waste which should have been excreted during the time these functions were restrained by the efforts of the narcotic. Now, if before this is accomplished another dose be taken, the eliminators are again interfered with in their work, with resulting retention of the products of waste. In the drug habitue these doses are repeated from day to day, usually several times a day, thus constantly interfering with the work of the eliminating organs, and the system soon becomes surcharged with the products of tissue disintegration and their fermentative compounds. In other words, the habitual condition, the normal state, as it were, of a drug habitue, is one of profound toxemia. These toxins are of intestinal, drug, and auto-origin.

Any acute ailment occurring in one whose system is in such a toxic condition is greatly intensified, the fever pain and all other symptoms are increased in severity, and, if the attack be of an inflammatory type, the inflammation is likely to partake of an erysipelatous nature and spread with great rapidity. In all such cases the prognosis is extremely grave.

The treatment of such a condition is manifestly difficult since the narcotic drug must be continued. If the drug

could be discontinued the eliminating organs could be readily brought into play, and the toxic matter thrown off, but any attempt to withdraw the drug at the beginning of or during an acute ailment would precipitate a crisis which would almost certainly end in death; therefore we are confronted with the necessity of curing an ailment, of overcoming a diseased condition while its cause continues in active operation. Not only that, but if the patient is left to his own volition in the matter, he will take his drug in increased quantities in order to partially overcome the distress incident to the acute ailment, and this would still further retard excretion.

In order to have a rational basis for the application of the therapeutic measures with which we are to combat this condition, we should reach a conclusion as to which of the excreting or secreting organs is materially interfered with and what is the extent of that interference.

The action of the kidneys is not materially affected, as a large percentage of urea and other excretory products is thrown off by the kidneys of a drug habitue as in a normal person, and the quantity of liquids passed is practically normal.

The action of the peptic and pancreatic glands does not seem to be materially affected. Morphine habitues can digest and assimilate as large or larger quantities of nourishment under the effects of morphine than they could without it, if their systems were in an equally toxic condition from any cause. In other words, while they are anemic and their tissues are poorly nourished and digestion and assimilation are interfered with, this interference is due to the toxic condition of the system rather than to any direct effect the morphia has on the digestive organs themselves.

The action of the liver does not seem to

be materially affected. Drug users are able to eat and digest fats in fair quantities, and bile may be found in the stools. Since it is not apparent that the action of either of these classes of secreting and excreting glands is affected to such a degree as to account for the extremely toxic condition present, shall we conclude that the remaining set, the excreting glands of the intestines are directly at fault, that their functional activity is checked to such a degree as to account for the retention of this toxic matter? I think not. Their action is regulated by the same nerve centers which preside over the activity of the other intestinal glands. Their action could hardly be suspended to such a degree as to account for the toxic condition present without more marked derangement of the other glands having the same nerve supply. This leaves us to place the blame on the other excretory force, the motor function of the bowel, and it is here that we find the chief trouble.

One of the earliest and most noticeable effects of morphia is an arrest of intestinal motion. In a very short time from the administration of a full dose of morphia peristalsis is completely arrested and remains absent for a period varying from four to twelve hours, depending upon the size of the dose.

In drug habitues these doses are repeated at frequent intervals, and peristalsis is suspended during a greater part of each twenty-four hours. Peristalsis is essential to discharge of waste from the bowel. A motionless canal means a clogged canal. The eliminating organs may be likened to a sewer system with the intestinal canal as the main and the ducts of the excreting glands as laterals. If the main sewer becomes obstructed, the laterals have no outlet for their product. Since they cannot discharge their waste into the main, it is retained or forced back into the system. The re-absorption of this waste

from the clogged or sluggish excreting stream is the mechanism by which the systems of drug users becomes toxic. When this semi-paralyzed condition of the intestinal canal is overcome and active motility established in its stead, the accumulated waste is promptly discharged.

The fact that, when active peristalsis is induced and maintained, very little if any larger quantities of glandular stimulants are required to secure free movements from the bowel of a drug habitue than from one who is not using a drug, confirms me in the belief that the functional activity, *per se*, of the secreting and excreting glands is not materially reduced, but that the failure of excretion arises almost exclusively from suspension of the motor function of the bowel.

Fortunately we have one drug in our armamentarium which has sufficient power to bring about free intestinal motion notwithstanding the restraining effects of the opiate, provided it be given in sufficient dosage and at the proper time. That drug is strychnia. Ordinary medical doses, however, are not sufficient. In estimating the quantity of strychnia required in any given case, the age, weight and physique of the patients must be taken into consideration as well as the quantity of morphia, the paralyzing effects of which we are seeking to overcome. Young persons are more susceptible to strychnia than older ones. The short, compactly built, in whom a fair degree of muscular tone is present, do not require as much as the tall, loose-jointed, with flabby, atonic tissues, but the relation between the time of giving the strychnia and the morphia, the effects of which we are seeking to neutralize, is equally as important as the size of the dose.

Strychnia excites peristalsis by direct stimulation of the motor centers. Motor waves thus induced extend to all the structures which would receive them if

the centers were acting normally, or without artificial stimulation. The arrest of intestinal motion by morphia is most marked during the primary effects of each dose or each succeeding dose, but as the primary effects of the drug wear away, peristalsis gradually becomes reestablished. Drug users, as a rule, take their drug only during the day or from the time of rising in the morning till bedtime, say from 8 A.M. to 10 P.M. During the hours the system is kept constantly under the primary effects of the drug and intestinal motion is very much restricted, but, during the period between 10 P.M. and 8 A.M. the effects of the day's dosing wear away and peristalsis becomes fairly active. It is during the later part of this period that the excretory organs do the principal part of their work.

In order to secure prompt action of purgatives, advantage must be taken of this state of affairs. The remedies must also be so compounded, and be given at such times, as to have the acme of their effects, both as motor and secretory stimulants, occur during the latter part of this period when the system is least under the restraining influence of the opiate. To do this, begin with the purgative course at 2 P.M. and give, on an empty stomach, a dose every two hours until 10 P.M. For an average patient, taking ten grains morphia per day the following will be found effective:

Calomel	10 gr.
Powd. Ext. Cascara	10 gr.
Podophyllin	1 gr.
Ipecac	1 gr.
Atropia	1-50 gr.
Strychnia Nit.	$\frac{1}{4}$ gr.

M. Ft. Caps No. 5. Sig. One at 2, 4, 6, 8 and 10 P.M.

It will be noticed that these capsules contain 1-20 grain strychnia each, and that one is to be given every two hours

until five such doses are given, making $\frac{1}{4}$ grain of strychnia in eight hours' time. This would be excessive dosage for one not under the influence of an opiate, but it must be remembered that morphia opposes strychnia in almost all its range of action, and that we are seeking to overcome its paralyzing action on the motor function of the bowel and unless a quantity sufficient to do this is given the secretory stimulants will simply stir up a storm in the upper part of the intestinal canal, accompanied by nausea, vomiting, and other distress, but no action will occur. It is more than likely that this storm will have to be allayed by an increased dose of the opiate. During the time these purgative capsules are being given the patient should have his usual doses of morphia, but none must be given from the time of giving the last purgative capsules until free evacuations have been obtained. The physician should take charge of the patient's drug supply at the time of beginning the purgation course, and control it from that time on.

The strychnia and atropin in these capsules will excite a fair degree of peristalsis, notwithstanding the restraining effects of the opiate, and this will usually enable the glandular stimulants given with them to induce free evacuation from the bowel in eight to ten hours from the time the last purgative capsule was given, thus securing bowel movements before the time for the next or morning dose of morphia; but, to more certainly accomplish this result, six hours from the time of giving the last purgative capsule, give one-twentieth grain of strychnia hypodermatically and follow in half hour with two ounces of castor oil or full dose of salts, and repeat both the strychnia and oil, or salts, at intervals of two hours until the intestinal canal has been thoroughly emptied.

If the bowel begins to act before the time for the usual morning dose of opiate

the patient will experience little if any discomfort, but if not, the opiate must be withheld until the bowel has been well emptied. This may be a stormy period, but this storm must be weathered. If the ingredients of the purgative course and the strychnia have been properly adjusted to the case in hand, the bowel will begin to act in six to eight hours from the time of giving the last purgative capsule, and a number of free evacuations will have been obtained before the time for giving the morning dose of morphia. The relief afforded by this active elimination is usually such as to enable the patient to go in comfort several hours beyond the time for his dose, and this he should do, thus allowing more time for elimination. When the patient has gone without his dose as long as he can without discomfort, give it to him, but in reduced quantities. It will be found that after the bowel has been thoroughly emptied and the patient has gone without his morphia several hours beyond the usual time for his dose, not more than one-half the quantity of morphia he had been taking will be required to meet the demands of the system. This quantity should be given at regular intervals, observing the hours at which he had been accustomed to taking his dose.

Forty-eight hours from the time the first purgative course was begun, another should be started and given as the first. This course may be less or more active, according to the effects obtained from the first one. It should be followed by strychnia and saline or oil, as in the first instance. This course will carry into and out the intestinal canal a residue of extremely toxic matter and the relief obtained from it is even more marked than from the first. After its action a smaller quantity of morphia will meet the demands of the system than after the first course, but, whatever quantity may be found necessary to keep the patient free

from abstinence symptoms should be given, and this should be continued at regular intervals throughout the remainder of the acute ailment.

Following the second purgative course the bowels should be kept acting by the regular and persistent administration of both a motor and glandular stimulant, and thus prevent a recurrence of intestinal toxemia. One-fortieth to one-twentieth grain of podophyllin or twenty grains of sodium hyposulphite given at intervals of from two to four hours during the remainder of the acute ailment, will usually answer this purpose admirably, but these only meet the demand for a secretory stimulant. To insure activity of the other function essential to bowel movement, a sufficient quantity of strychnia should be given during the evening hours of each day to excite active peristalsis. With elimination thus efficiently secured, and with the same kept up during the remainder of the acute ailment, that ailment, whatever it may be, can be treated with but little more difficulty and with about as much success as if there were no drug addiction present.

DISCUSSION ON THE PAPER OF DR. PETTEY.

DR. S. T. RUCKER, Memphis:

Since I left East Tennessee I have had very little experience in treating acute diseases. While there engaged in general practice, I found one-eighth- to one-fourth-grain doses of calomel effective with the average patient. When I came to the Mississippi Valley to practice, I soon found out that small doses were not only inefficient, but would sometimes aggravate the condition of the patient, instead of doing good, and that much larger doses were required by the average patient to get results.

In discussing the necessity of giving large doses of calomel in this section with one of the older practitioners of Memphis, he said: "I am sometimes called in consultation with younger physicians in suspected cases of malaria that would not yield to the usual calomel and quinine treatment. I would suggest that he make thirty grains of calomel into two powders, give one,

and in six or eight hours, if the bowels had not acted freely, to give the other one. The second powder seldom had to be given. Besides, the patient's temperature would drop suddenly to normal and the patient would soon be up and about."

Of course, in morphine and similar drug addictions, large doses of calomel are necessary to produce an effective purge, especially when the drug is being withdrawn. Hence, I am not astonished when I hear the essayist advocate such heroic doses.

DR. M. L. MALLOY, Eutaw, Ala.:

I wish to express my high appreciation of the paper just read, and to bespeak your careful consideration of it. This is a new idea to some of us, which we ought to remember, for it is something we do not get in text-books. I have had the opportunity to observe the treatment of acute conditions in patients addicted to narcotic drugs, and I can testify to the high mortality which has attended these cases in the past.

Some years ago, while assistant physician in the State Insane Hospital of Alabama, we received a great many patients who had been addicted to drugs and who were suffering from auto toxemia. These patients, of course, were taken off the drug after entering the institution, but I remember one patient under my charge addicted to morphia who, shortly after entering this institution, developed erysipelas, during an endemic of this disease. This was a strong robust patient, but died on the third day of the disease. Of course, I understand now that this patient had but little chance for recovery, with a severe auto toxemia plus an acute infection, for I did not understand the true pathology involved.

Now I am convinced that the views of the essayist are well founded, for most of us realize the part that auto toxemia plays in any disease, and that it should be met promptly in the beginning of treatment. It is the only reliable basis on which we can establish a rational treatment in any of the acute ailments.

In morphinism we have a most severe type of auto-intoxication, as the doctor has outlined, from the arrest of intestinal movements, due to the inhibitory action of the morphine on peristalsis. The skin and other excretories are therefore called on to do an extra amount of work which they are unable to perform. The blood is therefore flooded with toxins, which bathe every cell and fibre in the body, and we can

easily understand how the patient's resistant powers are decreased.

If we attempt to withdraw the drug without thorough preparation, we would have profound collapse and neurasthenia. The author's plan stopping the drug at bedtime seems indeed reasonable. Strychnia in the dose recommended might appear large, but we must remember that it directly opposes morphia in physiological action.

Now, gentlemen, if our conception of the doctor's paper is right, if it is true that these cases can be treated almost as successfully by the plan outlined as if they were not using any drug, then to my mind this is one of the most important papers that will come before this association, and I hope it will be carefully read and considered when we are called upon to treat such cases.

A surgeon, in preparing a patient for operation, realizes that toxemia is quite a factor to combat, and he would not think of operating on the patient without first freeing the system of toxic matter, nor would we allow a pregnant woman to go to full term who was toxemic without first preparing her thoroughly for the ordeal of labor.

I am convinced that our failure to treat these patients successfully in the past has been due to our ignorance of the effect of narcotic drugs upon the human system. The author's insight into the true pathology of this condition comes from original research and long experience in treating patients addicted to narcotic drugs.

Now just a word or two more and I am through. It is estimated that three per cent of the people of the United States are drug users, a great many of them members of the medical profession. I do not know how susceptible these people are to acute ailments, but if we can reduce the mortality, say fifty per cent, then we would save a great many lives annually. This being our highest aim, it behooves us as physicians at this stage of our high advancement, as we have long emerged from empiricism, to give the people the benefit of our enlightenment.

DR. STEVENS, Nashville:

I wish to call attention to the remarkable lack of effect from the use of purgatives in this condition. This thought came into my mind in listening to Dr. Petty's paper. Recently there appeared in the *New York Medical Record* an article, entitled "The Withdrawal of Drugs Without Suffering in Three Days." The essential and especial feature of that treatment was a very marked purgation that the gentleman

undertook to attain. He demands that the purgatives be given in such a quantity that it is really almost terrible to contemplate. For instance, during thirty-six hours of that treatment there was the administration of some sixteen compound cathartic pills and twenty-five or thirty grains of blue mass and one or two doses of castor oil, and with all that, in the administration of these large doses, my experience in a few cases has been such as to compel me to give a dose of salts and a few other things along with it to accomplish the desired purgation. But with that method of free purgation we do get good results. Let me mention a case. There came to me the other day a very pathetic case of a boy, only twelve years of age, who had been taking opium from the age of five. At the time I saw him he was taking sixty grains of opium a day. I expected to have a terrible time in taking away the drug from him, but upon putting him upon this Lambert treatment, it was necessary to give but two doses of opium in the treatment, and at almost any stage of that treatment he felt fine. It was a remarkable fact that I was able to withdraw that quantity of drug in a short time with so little suffering. That seems to be due to the free elimination obtained.

I would like to know what the experience of the members has been with regard to the appearance of nephritic symptoms in the course of the treatment of these conditions. In my own experience it has been rather unfortunate in this way, that following the withdrawal of the drug in several cases I have had some rather distressing uremic conditions to come up, and I would like to hear an expression from others about it.

DR. J. B. WITHERINGTON, Munford:

This is an interesting subject. I have been not a little perplexed frequently in treating patients who have been addicted to the use of drugs. My treatment of these cases has been unsatisfactory, and I am certainly very glad to have heard this paper. I think I have got some excellent ideas that are worth something to me. I say I have been perplexed because I did not know whether or not to continue the drug during the treatment of the patient for the ailment. Sometimes it has seemed to me to be contraindicated; sometimes, when the patient was not able to tell me, I did not know how much of the drug he was taking, and I was perplexed as to how much to give him. I would like to have Dr. Petty tell me about that. When a

fellow does not know how much he has been taking, and it is necessary to give him the drug, and there is nobody to tell the physician, what is the physician to do in such a case?

DR. PETTEY (closing the discussion) :

I wish to thank the gentlemen for their liberal discussion of my paper, and I will try to answer one or two questions that have been asked.

In reference to the question of Dr. Stevens, as to nephritic complications following drug addiction, I have not seen them occur more often than they do when the patient is not so addicted. Morphine does not produce a structural lesion of the kidney, and I do not see any reason why we should expect nephritic ailments to follow; but toxic conditions do involve or cause irritation of the kidney, and if that toxic condition is not fully overcome, the withdrawal of the restraining effect of the opiate allows the toxemia to irritate the kidneys. It is solely due to the fact that we do not rid the system thoroughly of the toxic matter, and this accounts for the occurrence of such symptoms. In my experience there are fewer physicians who really understand the necessity and the method of emptying the intestinal canal and getting rid of an acute or chronic toxemia than any other important thing in medicine. We give a dose of salts, the bowels act, and we think the intestinal tube is empty. This is not true. There is retained matter somewhere which the ordinary dose of salts does not remove. There is something else involved in it besides flushing and emptying the lower part of the intestinal tube.

As to the question of Dr. Witherington, I will say that any one is liable to be confronted at any time with a case in which he is unable to get a history that is reliable from the patient as to how much of the drug or drugs are used. The only way to do is to strip such patients of everything they have about them and assume absolute control of them and their surroundings. Commence to give morphine in safe doses and give it until the patient ceases to show ab-

stinence symptoms. What are the symptoms that indicate the necessity or demand for a drug in a drug habitue? You will find a rapid heart, and excessive perspiration will guide you. If you give morphine until the skin stops leaking, gets dry, you will meet every other demand of the system for the drug, and that alone should guide you. You may not always bring the heart to a slower rate of action, but you will improve the volume of circulation. If the patient is not sweating, he is not needing morphine bad enough to be in danger by its being withheld.

As to the remarks of Dr. Stevens concerning the Lambert treatment and the excessive administration of purgatives, will say he has underestimated the doses given by Dr. Lambert. I found in referring to the article the other day that he gives an equivalent of thirty compound cathartic pills in the course of three days. This is carrying the administration of purgatives to an excess. He has to give secretory stimulants in excessive quantities because he refuses to recognize the fact that the motor function of the bowel is concerned in bringing about evacuations. The motor centers are profoundly blunted. The terminal filaments are equally lethargic; therefore local irritation sends a message that is very weak to a profoundly blunted center, and the reflex response is very slight. If you give strychnia sufficient to stimulate the action of the motor centers and thus bring them into a responsive condition, then they receive with due force and respond efficiently to any irritation you may send to them by reflex action. Dr. Lambert gives four or five times as much purgative as is needed. Ten grains of calomel, one-sixth of a grain of strychnia and one grain of podophyllin, divided into four or five portions, is an active purge, but is one that will not exhaust a patient. The strychnia excites the motor function of the bowel so that it will act with greater certainty, more promptly and with the minimum of distress, and when it acts it will empty the intestinal canal thoroughly, but does not exhaust the patient, as when large quantities of secretory stimulants are given alone.

AMERICAN PROCTOLOGIC SOCIETY.

THE Twelfth Annual Meeting was held at St. Louis, Mo., June 6 and 7, 1910. The President, Dr. Dwight H. Murray, of Syracuse, N. Y., presided.

Officers elected for the ensuing year: President, George J. Cook, M.D., Indianapolis, Ind.; Vice-President, Jerome M. Lynch, M.D., New York City, N. Y.; Secretary-Treasurer, Lewis H. Adler, Jr., M.D., Philadelphia, Pa.

Executive Council: Dwight H. Murray, M.D., Syracuse, N. Y., Chairman; George J. Cook, M.D., Indianapolis, Ind.; Louis J. Hirschman, M.D., Detroit, Mich.; Lewis H. Adler, Jr., M.D., Philadelphia, Pa.

The place of meeting for 1911 will be at Los Angeles, Cal., exact date and headquarters to be announced later.

The following were elected Honorary Fellows: Mr. F. Swinford Edwards, Mr. W. W. Wallis, Mr. P. Lockhart Mummery, and Mr. W. Ernest Miles, all of London, England.

The following were elected active Fellows of the Society: Dr. Horace Samuel Heath, 320 Temple Court Building, Denver, Col.; Dr. Stanley G. Zinke, 222 Fifth Avenue, Leavenworth, Kansas; Dr. Granville S. Hanes, Masonic Temple, Louisville, Ky.

The following is an abstract of the principal papers read:

PRESIDENT'S ADDRESS, "UNDERGRADUATE PROCTOLOGY."

Dwight H. Murray, M.D., of Syracuse, N. Y.:

After thanking the Society for the honor conferred upon him in making him President, he made some recommendations as to its future before taking up the formal subject of his address.

He considered that the American Proe-

ctologic Society stood for a high class of scientific work and the best that there is in Proctology. He believed that it would be for the best interests of the Society that the programs of future meetings should be made up of a symposium, or possibly two, with essays that shall treat thoroughly some selected subject or subjects, and that these papers should be written by men whose part in the symposium should be assigned to them by the executive committee. He suggested that the program should not be too crowded, and that sufficient time should be given for a full discussion of every paper and subject presented.

A recommendation was also made regarding the limitations of the field of the proctologist. He believed it to be true that the *ethical* practice of proctology was too narrow a field in which the specialist could gain a competence. He therefore recommended that this Society take up the question of the limit of proctology as a specialty, and that it be changed to include diseases of the small intestines, in other words, that proctologists become procto-enterologists. In this way every member of the specialty would be doing uniform work.

He considered that one of the most important duties of the Proctologic Society was an educational one. He hoped that with the increasing appreciation and demand for this kind of special work, the colleges would take up the subject in a manner which its importance demands, and that if the medical colleges did not educate the profession in this branch of medicine, the members of the Proctologic Society must do it. He put forth the claim that the field of medicine and surgery is too large to admit of any man becoming an expert in all branches. This

is an age of specialties and the very limitations of a specialist make an expert of him.

He believed it to be the duty of the American Proctologic Society to foster a sentiment in the profession and among college authorities favorable to the special teaching of proctology either separately or as a branch of general surgery. He did not deem it necessary that a special chair of proctology should be created, but that a course in proctology should be provided for under the chair of general surgery.

Dr. Murray believed that it would be wise for the American Proctologic Society to offer a prize of a substantial sum of money for the best original graduating thesis on a proctologic subject, the competition to be open to graduating classes of any college in the United States and Canada.

In conclusion, the doctor believed that the profession should offer more encouragement to specialists in all branches, especially to those who are willing to devote their time to a branch which has for some reason been neglected, as proctology has been. Then it would be practically impossible for quacks and healers of various sects and "isms" to take advantage of our professional neglect, and use it as their opportunity to play upon the credulity and gullibility of human nature.

MALFORMATIONS OF THE ANUS AND RECTUM. REPORT OF FOUR CASES.

Alois B. Graham, A.M., M.D., of Indianapolis, Ind.:

Congenital malformations demand prompt surgical treatment. Many cases are never reported and the percentage is evidently much larger than statistics indicate. These malformations are sufficiently uncommon and interesting to warrant placing every case on record. Report of four cases.

Case 1.—White male child, born with no trace of an anus, and in whom careful dissection and exploration failed to find any trace of a rectum. Colostomy was suggested, but the parents refused their consent. Child died four days later. Autopsy refused.

Case 2.—Colored male child, age five years; born with a complete obstruction of the anus by a membranous diaphragm, which was perforated by the attending physician. Examination revealed a dense stricture, almost impermeable, involving the entire anal canal. The interesting point was the presence of a hypospadias through which feces had escaped for two years. The communication between the rectum and urethra was the result of ulcerations above the stricture rather than defective embryological development. Surgical treatment was refused.

Case 3.—Colored female child, age fifty-six days, in whom examination revealed a well-formed anus and a protruding or bulging imperforate rectum. A photograph shows a pronounced distension of the abdomen, the result of a fifty-six days' intestinal obstruction. Posteriorly, the rectum had no attachments, and the finger could be introduced easily behind the bulging imperforate gut, through the anal canal, into a blind pouch. A fistulous opening was found in the vagina just behind the hymen. The meconium and a small quantity of feces had escaped through this opening. The protruding rectal mucosa was dissected from its attachments and excised. The rectal mucosa was then sutured to the free skin at the anal margin, except for one-eighth of an inch posteriorly. This was used for drainage in case the blind pouch became infected. This patient made a good recovery. At the last examination which was three months following operation, the finger could be introduced easily into the rectum, the stools were normal, and spine-

teric control was good. The fistulous opening into the vagina was closed, and the posterior rectal mucosa was firmly united to the skin at the anal margin. With the exception of an abdomen which seemed to be a trifle prominent for one of its age, the child appeared normal.

Case 4.—White child, one of twins; age, forty-two hours, in whom examination revealed an imperforate urethra and no trace of an anus. Penis and scrotum were well developed, but neither testicle could be palpated. Careful dissection and exploration failed to find any trace of a rectum. A two-inch incision was made in the median line just above the pubis, but no bladder could be found. Decided to perform a colostomy or sigmoidostomy. A portion of what was supposed to be the sigmoid was opened, and a large quantity of meconium escaped. Exploration revealed a pouch which appeared of much larger dimensions than a normal colon or sigmoid should be. Operation was completed, and yet our inability to find the bladder made the case a hopeless one. Child died twenty-four hours later. At autopsy no bladder was found. The entire large intestine was removed. This case is of interest from the point of view of defective development. The pouch-like termination of the intestine might well be termed a monstrosity. The writer is inclined to believe that it is one of those rare cases in which the colon or sigmoid opens into the uterus. While the local examination revealed a male child, with the exception of being able to palpate the testicles, the examination of the specimen removed at autopsy reveals marked evidence of the female generative organs. This child was a transverse hermaphrodite—namely, one in whom the external genitals seem to be of one sex and the internal of the other. Report of examination of specimen states that the pouch-like termination of the intestine is formed of three

organs: namely, the bladder, uterus and rectum. (Specimen shown.)

THE USE OF QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC IN ANO-RECTAL SURGERY.

Louis J. Hirschman, M.D., of Detroit, Mich.:

Dr. Hirschman presented to the Society a report of his work with quinine and urea hydrochloride as a local anesthetic in ano-rectal surgery. The cases operated upon totaled 102.

He reported perfect results as far as operative anaesthesia was concerned in every case, and in but seven cases was there any post-operative pain. He used the one per cent solution of quinine and urea hydrochloride in all of his cases of ano-rectal surgery, where suturing of the skin is not required.

The technic of administration as employed by Hirschman is the same as that used with weak solutions of cocain and eucain. He describes this technic in detail. He believes that the substitution of quinine and urea hydrochloride for any of the other anesthetic salts hitherto employed will be found eminently satisfactory in all cases of ano-rectal surgery, where suturing of the integument is not required. He sums up its advantages over the other anesthetic drugs as follows:

First. It is soluble in water.

Second. It can be sterilized.

Third. It is equal to cocain in anesthetic power.

Fourth. It is absolutely non-toxic.

Fifth. It has a pronounced hemostatic action.

Sixth. Post-operative anesthesia lasts from four hours to several days.

Seventh. It is inexpensive and almost always available.

ATONY OF THE RECTUM.

William M. Beach, M.D., of Pittsburgh, Pa.:

Dr. Beach stated that atony or sluggishness of the rectum signifies the inability to expel its contents by reason of impaired musculature, ligamentation or innervation, and further that the musculature in the rectum proper, or that portion above the plane of the levator ani, is entirely involuntary, whose inertia must therefore be due to some inherent factor.

On the contrary, the anal canal, which is made up for the most part of the voluntary fiber, has most to do with the expulsive act, the normal function of which depends chiefly upon the muscular automaton that is intact, proper innervation and psychic influence.

The treatment is that of constipation, being guided by the cause. Alterative, dietetic and mechanical agencies are to be invoked.

SIGNIFICANCE OF RECTAL HEMORRHAGE.

Louis J. Krouse, M.D., of Cincinnati, O.:

Dr. Krouse called the attention of the profession to the importance of making a more careful examination of every case where there is bleeding from the rectum. He stated that rectal hemorrhage must not be considered conclusive of the existence of piles. Many other diseases besides piles are accompanied with bleeding. He laid great stress on the importance of diagnosing malignancy in its early stage so as to give the patient a better chance of recovery. Many cases of malignant disease of the rectum, whose only symptom is hemorrhage, have been overlooked and the patient sacrificed, which would not have occurred had the family physician insisted upon a local examination thereby diagnosing the disease in its incipency before it had gone beyond the operable stage. He further stated that every pa-

tient is entitled to a thorough examination; and physicians are in duty bound to use all the means at their command to accomplish it. As Murray very aptly expressed himself, "Thus a case that today would be operable and a cure result, if diagnosed, would be inoperable in six months or a year and death result." The author reported numerous cases where a correct diagnosis had not been made on account of the negligence of the family physician. Some had been operated upon for bleeding piles, which subsequently turned out to be cancer. He concluded his article with the statement "that earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it, therefore, behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage."

ANO-RECTAL AFFECTIONS OF INFANCY AND CHILDHOOD.

A. J. Zobel, M.D., San Francisco, Cal.:

This paper briefly described those ano-rectal affections of infancy and childhood, which may appear in one's daily work or in consultation practice.

From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded.

The various malformations were enumerated and briefly described. Some of these abnormalities pass unnoticed throughout a long life, but others are the source of great discomfort and distress.

Mention was made that while hemorrhoids are common in adults, the possibility of their presence in the young is rarely considered. Yet they may appear in children of tender years. The various causes for hemorrhoids in the young were reviewed in this paper.

Malignant growths of the rectum, while rare, are occasionally met with. Cases were quoted where the disease was found in children as young as five years of age.

Benign growths are more common. Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and like them, may become strangulated. They may exist for some time and attain quite a size without producing any symptoms until strangulation occurs.

Fissure of the anus is believed by the writer to be present more often than it is usually diagnosed. It may cause severe crying in nurslings. May cause reflex symptoms to appear, which, for a time, may baffle the diagnostician. Some of these may resemble coxalgia. The incautious and improper introduction of syringe nozzles and thermometers into the anal canal frequently cause fissures. Other causes were also mentioned.

Especial stress was laid on the subject of Pruritus Ani in children, the writer believing it to be a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed, and he believes that it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. The child is seen to rub his anal region, saying, "It hurts." Does not complain of itching. Seems to misinterpret the sensation. He has found superficial lesions of the anal mucous membrane in these cases, and as the symptoms disappeared when local treatment was instituted, he feels assured that these were the cause of the trouble.

Fistula-in-ano is met with occasionally in children and even in nurslings. While it may be tubercular it may also be of a congenital nature.

Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulae.

Prolapse of the mucous membrane of the

anus and rectum is a common condition during the second and third years of life. Long-continued tight binding in babyhood may be the starting point. Diarrhoea is the most common antecedent. Anything that induces prolonged and severe straining at stool may be a cause. Some of these causes were mentioned.

The varieties and causes of proctitis were also dwelt upon. Proctitis is often taken for ordinary catarrhal diarrhoea due to improper feeding. It is advised that when a gonorrhoea of the genital tract exists in children that a secondary infection of the ano-rectal region should always be considered.

It is hoped that this reminder that infants and children have ano-rectal troubles, as well as adults, will lead to more thought being given in this direction, and that it will bear fruit in bringing relief to some of these little sufferers.

A UNIQUE CASE OF LACERATION OF THE SPHINCTER ANI.

Dr. A. B. Cooke, of Nashville, Tenn.:

On February 26, 1910, the patient, a boy seven years old, was brought to him at St. Thomas Hospital, accompanied by his father and physician. The following remarkable history was related: About noon on the day named the boy, who lived on a farm, went out to his favorite place behind the corn-crib to attend to a call of nature. While engaged in the act, a pet dog, a hound of middle size, came up from the rear, and mounting him, effected entrance into the anus and became accoupled. The boy's outcries quickly brought his mother upon the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was naturally marked, and in her frantic efforts to disentangle the two she used consider-

able violence, and finally succeeded in separating the dog.

The family physician, on his arrival, found that the hemorrhage had practically ceased, but upon inspection of the bowel, found the parts were badly lacerated, and advised the patient's removal to Nashville for treatment.

Dr. Cooke's examination found very little evidence of external injury. Traction upon the anus, however, showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out upon the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, and the other partial. Anteriorly there was a second laceration, into but not through the fibers of the sphincter. In addition there were a number of minor tears in the anal margin involving the superficial tissue only.

Fourteen interrupted catgut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete, and the patient returned home in two weeks with perfect sphincter control.

MULTIPLE ADENOMATA.

George W. Combs, M.D., of Indianapolis, Ind.:

An adenoma is the result of an increase in number and a crowding together of elongated and enlarged secreting follicles. It is an exaggeration of epithelial cells. This epithelium is prone to penetrate the basement membrane. When it does so and reaches the muscularis and other submucous tissues it is malignant. Irritation

causes the transformation from the benign to the malignant. This irritation may be through the normal function of the bowel, that caused by parasites, or as a result of surgical removal singly. Surgical disturbance in situ of a benign adenoma, a widening experience shows, will be followed by malignancy.

After malignant transformation has taken place, it would seem useless to remove the malignant portion unless the entire bowel involved may be removed at the same time.

SKIN MANIFESTATIONS OF AMEBIASIS.

Jno. L. Jelks, M.D., of Memphis, Tenn.:

The author had observed cutaneous affections among a number of persons suffering with chronic amebic infection. In April, 1909, he reported cases before the annual meeting of the Desoto County (Mississippi) Medical Society. In May, 1909, he made similar allusions to these conditions before the annual meeting of the Arkansas State Medical Society. Again, in April of the present year, at the Tennessee State Society, in a paper, "Amebiasis, Complicated in One Instance by Pellagra, in Another by Eighteen Adenomata," he referred to these associated conditions.

In one case, observed two years ago, with very chronic Amebic infection and ulceration, the patient had for more than forty years observed that the skin lesions, which were erythematous and macular, and at times edematous, depended very greatly upon the condition of the bowel at that time. This patient was returned to her family physician as incurable owing to the scarred, distorted and stenosed condition of the bowel. She has since died, apparently from exhaustion produced by a most extensive desquamative dermatitis.

Another case, which was observed in the winter of 1908-1909, of chronic amebic

ulceration, with liver abscess complicating, presented extensive macular, papular and pustular skin lesions which quickly cleared up under treatment, which was directed solely to the intestinal infection and ulceration.

Recently a case was presented, which had been diagnosed by several able physicians and skin specialists as one of pellagra. The case presented all symptoms of amebic infection, which preceded the skin lesions, and the author found the *Ent-Ameba Hystolitica* in the muco-purulent material taken from the rectum, and concluded that the condition known as pellagra may have its solution as to etiology when systematic examinations are made for parasitic infections and intestinal conditions.

The author expressed the belief that those may help explain the prevalence of the condition known as pellagra in the South. A report of six cases was presented in support of his views, and he emphasized the singular coincidental, if not consequential, skin lesions in so many chronic amebic cases which have been observed by him and which responded to treatment directed solely to the intestinal infection and ulceration. He quotes other authority both in this and other countries which are supportive of his views.

INCONTINENCE FOLLOWING RECTAL OPERATIONS.

Geo. B. Evans, M.D., of Dayton, Ohio:

We understand the external sphincter to be a flat plane of muscular fibers, elliptical in shape, and intimately adherent to the integument and joining with the perineum, levator ani and accelerator urinae. It is a voluntary muscle and supplied by a branch of the fourth sacral nerve.

That incontinence does follow division of the external sphincter, that incontinence does follow division of the internal sphincter, is not denied and when their

division becomes a necessity the best way, if there is one, of making the incision should be chosen. Can we hope that ere long there will be a method of cure for fistula-in-ano that will exclude even the possibility of incontinence?

Considering the anatomical conformation of the perineum, the mutual dependence of perfect function, I would admonish those engaged in rectal surgery to not forget that indifferent and multiple injuries (even surgical injuries) should not be indulged in, for fear of a result that would prove more painful and unendurable than the condition which indicated operative interference.

We believe that incontinence can be obviated by relieving the tension of the fibers of the levator ani muscle at their attachment to the external sphincter, or both the external and the internal sphincter by nicking the fibers of said muscles on either side of the fistulous tract, and thus permitting an incision of the muscle at right angles to the same.

ULCERATION OF THE RECTUM IN PREGNANT WOMEN AND THE PART IT PLAYS AS A FACTOR IN ABORTIONS, WITH A REPORT OF CASES.

Leon Straus, M.D., of St. Louis, Mo.:

Sixteen years devoted to diseases of the rectum exclusively has afforded the author the opportunity to see and classify a large number of cases of irritable ulcer of the rectum in pregnancy, to say nothing of a much larger number not associated with this condition. He has kept a very careful record of these most interesting cases and has classified them with reference to certain conclusions, namely: that it is a factor not infrequently overlooked. Then, too, many general practitioners make the contention that an operation is uncalled for and unwarranted—that is to say, an operation will certainly produce the very result which it is intended to avoid.

He dissented absolutely from this contention, and for that reason reported the results of his work along this line and his final conclusions. He has operated twenty-four times for the result of irritable ulcer of the rectum in pregnant women. Not all of these operations were made to prevent abortion. In fact, only fourteen had had one or more abortions. That leaves ten for which the operation was made to relieve the distressing pain from which these patients suffered. A number of these cases are unique and teach a lesson apart from the average case. The history, symptoms and results, of several such cases, were reported, and the following conclusions were drawn:

First. That irritable ulcer of the rectum is not an infrequent factor in abortion and miscarriage.

Second. That the local lesion is not recognized by the general practitioner as a factor in abortion and miscarriage.

Third. That you will meet strong opposition to operative interference by the general practitioner.

Fourth. That you can and should operate at any period of the pregnancy if indicated.

Fifth. That the danger and only danger is in leaving the fissure without operating.

Sixth. That you may and will often have to assume the entire responsibility for the outcome of the operative procedure.

Seventh. That we proctologists should teach on the byways and highways of surgery the invariable indication for surgical interference in these unfortunate cases.

A CASE OF LOCALIZED DERMATITIS FOLLOWING
THE USE OF QUININE AND UREA AS A
LOCAL ANESTHETIC IN A CASE
OF FISSURE AND HEMORRHOIDS.

Arthur Hebb, M.D., of Baltimore, Md.:
Three days after the use of a one per

cent aqueous solution of quinine and urea, as a local anesthetic in a case of fissure and hemorrhoids, erythema over the ischio-rectal region developed, followed by epidermolysis, then a profuse serous discharge which continued for four or five weeks, the wound showing little tendency to heal during this time.

REMARKS UPON CECOSTOMY AND APPENDICOSTOMY.

With Exhibition of New Entero-Colonic and Appendiceal Irrigators.

Samuel G. Gant, M.D., New York City, N. Y.:

Dr. Gant called attention to the remarkable usefulness of appendicostomy and cecostomy in the direct treatment of bowel diseases and made the point that the latter was preferable in this class of cases and would sooner or later supersede appendicostomy. He also exhibited a new appendiceal irrigator which could be inserted during operation and which permitted irrigation to be started immediately in aggravated cases of diarrhœa and intestinal auto-intoxication.

Next he showed a new entero-colonic irrigator by means of which the large and small intestines could be irrigated separately or at the same time.

He claimed that this instrument is indicated in the treatment of all forms of enteritis, entero-colitis and the different types of ulcerative diseases of the colon and also in the treatment of typhoid fever, intussusception, peritonitis, and paratic affections of the intestine.

This irrigator he maintained was useful as well for studying the contents of the bowel, intestinal feeding, the direct employment of cathartics, enteroclysis and for many other useful and practical purposes.

A REPORT OF A CASE OF POST-OPERATIVE
DELIRIUM.

Samuel T. Earle, M.D., of Baltimore, Md.:

The author stated that while post-operative delirium was quite common before the days of antiseptic surgery, it was due then in the majority of cases to septic infection. The condition is rare now, except when due to shock, and then only as a result of a grave operation.

The minor character of the operation preceding the attack in the present case makes it more interesting, which is doubtless accounted for by the age of the patient.

CASE.—Dr. A. T., aged 78, had suffered with hemorrhoids since before the Civil War (1861), but had persistently determined not to be operated upon. Early in May, 1910, they became thrombosed and inflamed, at which time he consented to an operation.

The usual hypodermic of one-sixth of a grain of morphine, atropine one-one hundred and twentieth, and strychnine sulphate one-thirtieth, was administered prior to the anesthetic. Fearing the effect of ether or chloroform, on account of his age, it was decided to administer a mixture of nitrous oxide gas and oxygen. This mixture did not keep him thoroughly anesthetized, consequently the operation was not completed as quickly as usual, and as a result there was more blood lost, which did not exceed two or three ounces.

The operation was completed, and he regained consciousness in a few minutes, but almost immediately became very excited and delirious. Thinking this might be due to pain, one-fourth of a grain of morphine was given at the end of two hours from the time he received the first hypodermic; a third dose was given at 8 P.M., three hours following the second dose. The patient continued very deli-

rious during the night, and for three days following. The second and third nights we were able to quiet him for a few hours by hyoscine hydrobromide grain one-fiftieth, and morphine one-sixth, administered hypodermically. For the remainder of the first week, the hyoscine hydrobromide one-fiftieth was sufficient to give him a quiet night, but the delirium continued for one week from the time of the operation, but not nearly so active as during the first few days, and with some lucid intervals. His temperature did not exceed $99\frac{1}{2}$ the first three days, but on the fourth day it reached $100\frac{1}{2}$, and again on the seventh day, for a short time without any apparent cause; otherwise the patient made an excellent recovery, and was able to be about the house in about ten days after the operation.

APPENDICOSTOMY.

*A Consideration of the Preservation of the
Blood Supply of the Appendix in
the Technic of the Operation.*

Frank C. Yeomans, A.B., M.D., of New York City, N. Y.:

CASE.—Mrs. X. was operated upon March 21, 1908, for ulcerative colitis. While performing the appendicostomy, one of the cecal vessels going to the appendix was punctured and tied. Three days later the appendix sloughed and a fecal fistula formed. The colon healed with irrigations, the fistula closed, and the patient is well today as regards her bowel. This experience and similar experiences of several colleagues led the writer to a study of the circulation of the appendix from a surgical standpoint.

The other method, here advocated and in practice found successful, preserves the arteries intact, and consequently the vitality of the entire appendix. It is accomplished by separating the two layers of the mesentery at its juncture with the pos-

terior mural peritoneum, beginning at its free border, and carefully displacing the cellular tissue with its contained appendicular artery and branches, as far as necessary toward the appendix. The two layers of peritoneum are then divided transversely to the base of the appendix, turned in and sewed, to obliterate the raw space on the posterior abdominal wall. Experience teaches that it is unnecessary to test the patency of the appendix, until the wound has healed—that is, in four to five days.

Further precautions are not to obliterate any arteries by forceps, ligatures, sutures, torsion or tension in fixing the appendix in a position where it does not rest naturally, or by closing the wound too snugly about it.

By following this technic, the operation

is without mortality and post-operative leakage of feces and hernia—the two troublesome sequellae of appendicostomy, are avoided. Appendicostomy should continue to grow in favor over cecostomy in all cases where prolonged irrigation of the colon is indicated.

A CASE OF FIBROSIS OF THE RECTUM.

J. A. MacMillan, M.D., of Detroit, Mich.:

The case presented an area of fibrous tissue an inch and one-half in width, which encircled the rectum.

The lesion had recurred, was non-inflammatory, and caused no tendency to stricture.

Diagnosis: Possibly the result of syphilis.

Journal Tennessee State Medical Association

Published Monthly by the Tennessee State Medical Association.

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The Tennessee State Medical Association is not responsible for any statements or opinions of individuals published in this Journal.

SOUTHERN MEDICAL ASSOCIATION.

THIS Association will hold its next annual meeting in Nashville, November 8th to 10th, inclusive. It gives promise of being the largest meeting in its history. The Hermitage Hotel, a new million-dollar structure, just now approaching completion, will be headquarters. The convention hall in the hotel will be the meeting place of the Section of Medicine. The auditorium in the Y. W. C. A. building, now about complete, will be the place for the general and joint meetings, and the meeting place for the Section of Surgery. The Section of Ophthalmology will meet in a large room in the hotel, on the same floor with the convention hall, the meeting place of the Medical Section. The Y. W. C. A. auditorium is one square from the Hermitage Hotel.

The Association will hold its first general session in the Y. W. C. A. auditorium, at 10 A.M., November 8th, and at 8 P.M., same day, the second general meeting will be held, at which time President Crawford will deliver his address. Immediately following the President's address, it will be our pleasure and good fortune to listen to two other addresses, one by Dr. W. H. Welsh, President A. M. A., and the other, Dr. John B. Murphy, President-elect A. M. A. This will be the greatest general meeting the Association has ever had, because of these three masterful addresses.

After the first general session, the three



sections will meet morning and afternoon for the balance of the three days. The programs of the sections will afford much food for thought, and no doubt will richly repay every one in attendance.

On the evening of the second day a reception at the Hermitage Hotel will be given to Presidents Crawford, Welsh and Murphy. On the afternoon of the last day an automobile ride from the Hermitage

tage Hotel to the Hermitage, President Jackson's old home, for the entire membership of the Association, will be given.

The attendance from Tennessee alone should be more than five hundred. Let every reader plan to come. Rooms can be had, if applied for early, in the Hermitage

Hotel, at \$2.00 without bath, and \$2.50 with two in larger rooms with bath. Like rates will be given at the Duncan and the Maxwell. Rooms at convenient boarding houses can be had for one dollar. Write to Dr. G. C. Savage, Chairman, and he will place you as per the request you make.

BOOK REVIEWS.

THE PRACTICAL MEDICINE SERIES. VOLUME I, GENERAL MEDICINE. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Price, \$1.50.

This handy little volume, published by the Chicago Year Book Publishers, is one of a series of ten. It is designed primarily for the general practitioner for a ready reference book, giving the latest ideas and information in a most compact and useful form.

Diseases of the respiratory organs is discussed as to general diagnosis, under which are given percussion, a new physical sign, the use of the X-ray, lung puncture, pseudo-pleural friction rub; tuberculosis as to its etiology, pathology, symptomatology, diagnosis and treatment; and the latest ideas and discoveries under each head are emphasized at considerable length. Pneumonia and various affections of the pulmonary apparatus are dwelt upon.

Diseases of the Circulatory Organs.—Under this head the anatomy and physiology, as well as malformations of the heart receive due consideration. Functional and organic diseases are extensively and comprehensively considered.

Diseases of the Blood Vessels.—Under this head are considered changes in the blood vessels, both central and peripheral. Various methods of determining blood pressure are discussed and various tests for their determination are given. Under this head, also, are considered aortitis, arteriosclerosis, aneurism, haemophilia and purpura, concerning each of which the latest word as to etiology, pathology, symptomatology, diagnosis and treatment are given.

Blood and Blood-making Organs.—Here we have discussed the physiology underlying the general processes of metabolism as related to these, then a more detailed consideration of the spleen, with special reference to diseases attributed to pathological conditions of that organ.

Infectious Diseases.—Sleeping sickness, pellagra, influenza, rheumatism, chronic arthritis and chronic rheumatism, each in turn are considered from the standpoint of infectious conditions.

Diseases of the Ductless Glands.—After a review of the anatomy and physiology of these glands, Graves' Disease, Adrenal Insufficiency and Addison's Disease are discussed.

Metabolic Diseases and Disease of Kidneys.—Here special attention is given to gout, diabetes, albuminuria, nephritis, ureteral calculus and tuberculosis of the bladder, under each of which the most approved methods of examination and treatment are presented.

The volume is one to be commended to the

general practitioner for the latest word upon these subjects.

VOLUME II: GENERAL SURGERY. Edited by John B. Murphy, A.M., M.D., LL.D. Price, \$2.00.

This is a most interesting and instructive volume; the subjects discussed are so arranged and treated as to make them most attractive. Anesthesia—general, rectal, local, venous, arterial and spinal—each receives due consideration, and the best methods of applying each, with detailed instructions are presented.

Radiotherapy, in its various form, with best methods and cautions against abuses, is set forth. New instruments, with illustrations showing advantages, are given sufficient consideration.

Operative Technic.—Here we find some of the forecasts for the future and suggestions for the immediate present as to the methods of preparing patients and of procedure in operations. Valuable hints as to taking of histories, lighting of operating rooms, system and coöperative work and the after-treatment of patients, all receive attention. Wound healing and quite an array of valuable suggestions and hints at what should be done and what should not be done are given.

Under the head of "Tetanus" the question as to whether tetanus is introduced by catgut ligatures is discussed at some length. Considerable space is given to the discussion of tumors, in which the statistics concerning the "cancer-house" question has received especial consideration; also, the discussion of the question of cancer in man and animal. As to treatment of tumors, the discussion of various methods by injection and enzyme treatment with latest developments are given. Quite a comprehensive and well-illustrated review of Surgery of Arteries is given.

Fractures in general are treated with special reference to operative measures, while fracture of the skull has received special and detailed consideration. Surgery of the face, mouth, neck, thyroid and parathyroids are treated extensively. The thorax, heart and pericardium, with a general review of the surgery of the abdominal region, as well as stomach and intestinal surgery, are considered at length.

Surgery of the gall bladder, bile ducts, pancreas, spleen, kidney and bladder have each received due consideration. Surgery of the upper and lower extremities conclude this volume—all of which are interestingly and instructively presented.

JOURNAL

of the Tennessee State Medical Association

All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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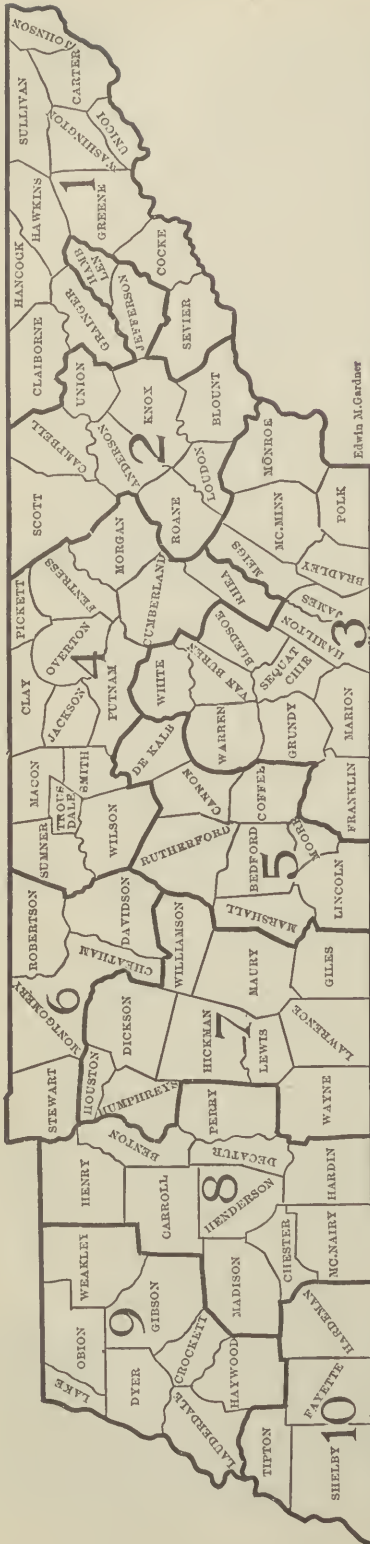
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

JOURNAL

OF THE TENNESSEE STATE MEDICAL ASSOCIATION

VOL. III.

NASHVILLE, TENN., OCTOBER, 1910

No. 6

THE DIAGNOSIS OF RETRO-PERITONEAL ENLARGEMENTS.*

W. H. ALLPORT, M.D.

I.

THIS is an old subject, and yet, as Emerson says in introducing his essay on Compensation, I have long thought I would like to write upon it. An important thought brings perennial refreshment to its discussion, and attaches to it a more than passing value; for upon the correct solution of many of these examples in abdominal algebra is established the wisdom of the choice of a trans-peritoneal or retro-peritoneal operation.

Although we propose to deal with objective enlargement as the point of departure for our discussion, so important is everything which concerns the definite location and identity of disease on one or the other surface of the peritoneum, that we may take the liberty to digress at certain points a little, to consider cases where the absence rather than the presence of enlargement adds confusion to the situation.

The busy surgeon has to answer such questions out of hand, without consideration of statistics or text-book classification, and reads the riddle—if at all—by the light of experience, and by the extemporaneous application of a cultivated logical faculty. We may be justified in thinking, therefore, that even when made the

text of more ambitious discourses, this subject, when treated clinically, will thus yield the more lively interest, and will carry farther into the mind of the practitioner accustomed to everyday occurrences.

This paper, then, is an informal one, based altogether on a few salient personal experiences, with scant reference to authors or authorities. We can find enough of the clinically unusual in the simple recital of observations along a great surgical frontier to satisfy the most ardent seekers after diagnostic excitement.

In my student days, it was a favorite observation of an old friend and teacher, who still holds that same beloved dual relation, that no two cases of typhoid are alike, and no one case is ever just like the type the physician carries in his mind's eye. Just so do we find most retro-peritoneal conditions; as soon as we have our ideas well formulated from a melancholy contemplation of past failures, up crops some wretched novelty in a false face to upset our notions of the fundamentals. If we start, then, with too many formulas, we shall not only cloud that clearer vision which knows a few truths and knows them well, but we can hardly reach any very universal basis of diagnosis. The occasional exception may prove a rule, but too many

*Read before the Tennessee State Medical Society, April 13, 1910.

either of rules or exceptions hamper decisive movement.

And, first, let us consider briefly the *personal element* underlying all diagnosis. A retrospect of my own many, and constantly recurring, diagnostic errors shows that they have been made largely either through ignorance or incorrectly valuing easily accessible diagnostic data, or else through accepting the crude opinions of others on vital points. In history-taking the statement of an absolutely ignorant patient, who is seeking relief and not damages, and who has a mind altogether virgin of opinions, is of more value than that of an educated crank with a fixed idea. In history-taking seek facts, and best of all objective facts; shun opinions, even those of colleagues. Many of the errors here frankly enumerated were due to disregard of these oft-repeated medical platitudes.

Secondly: When it comes to *guessing*—and who does not indulge in surgical guessing?—we should even then reserve to ourselves in the same way the right to guess independently. But we should guess as does the insurance actuary, scientifically, with the tables spread out before us. If the *doctrine of probabilities*, fortified in this manner, is a reasonable basis for the most conservative business in the world, why should the surgeon ignore it? To look for cancers in the old and sarcomas in the young, for acute abscess and the results of neglected trauma during the years of productive activity, and for chronic abscess and tuberculosis at all times—this in brief is the working theory of probabilities as applied to surgical diagnosis; the exceptions are few, and whoever accepts the doctrine to its fullest will be right the greatest number of times.

In this connection, let us note that many men have too much exceptional but undisciplined knowledge, and ignore

safe guides for the surgical conduct of everyday life. Book knowledge brings as close familiarity with the unusual as with the usual, but leads to a disregard of averages. The commonplace man who makes a judicious canvass of symptoms and settles down behind the doctrines of averages is apt to be right the greatest number of times. The usual is more likely to occur than the unusual, and the skilled diagnostician takes this into account.

CASE 1. In a recent case brought into the hospital for diagnosis, this doctrine strongly influenced the diagnosis, although the case was held to be inoperable and surgical confirmation was thought unnecessary. A rosy and well-nourished child of four, without previous history, presented an abdominal tumor of about six months standing. Although the patient was said to have had previous high fever, during one week's observation, there was no temperature or leucocytosis, and a Calmette test was negative. The skiagraph was negative. There was no vomiting, constipation or diarrhoea, no pain, and no urinary finding. The bladder, however, was thick and large, and there was continual urinary incontinence. There was no axillary, cervical or inguinal glandular enlargement. The abdomen was swollen and careful percussion showed it to contain a small quantity of fluid. Behind the descending and transverse colon was a growth, extending from the extreme left flank to the outer margin of the right rectus; there was some doubt whether the smaller portion to the right of the median line was actually joined to the larger portion to the left. The left border of the growth was rounded and smooth, and could be traced well under the costal arch above, and to an ill-defined point behind the sigmoid below. There were no fluctuation and no pain or tenderness. Within the abdomen could be felt a few less-defined lumps, which were not freely movable and seemed to be more closely associated with the posterior layer of the peritoneum than with anything actually within the cavity.

A diagnosis of *tabes mesenterica* had been made prior to admission.

The probabilities and known facts in this case pointed toward renal sarcoma, with only a remote possibility of *tabes*, and it was a little mysterious why the latter diagnosis could

have been previously entertained. While *tuberculosis* sometimes exists in well-nourished children, without temperature, without bowel symptoms, without adenopathy in other lymphatic regions, and possibly also as a primary large, rounded tumor which might even so completely encroach upon the kidney region as to simulate a renal tumor, it would have to be conceded that a wider margin of probability lay against such a large and characteristically located infantile growth proving to be anything other than renal sarcoma. Nor with the secondary enlargements present would it have been possible to entertain the diagnosis of urinary cyst. The safest diagnosis, therefore, was renal sarcoma.

CASE 2. A baby, six weeks old, weighing but five pounds, and nourished by bottle, vomited continually. My simple mind grasped only the connection between bottle and vomiting, and I hunted up a wet nurse. The mother—a hysterical and unreasonable female—became alarmed and made me bring in, coincidentally with the wet nurse, a consultant. My consultant happened to be a widely read man, but somewhat mentally astigmatic, and, his recent reading happening to have been along the line of congenital pyloric stenosis, he immediately saw good reason for suspecting it in this infant, and strongly hinted at an operation. This was too much for the mother; she sought shelter in the bosom of homeopathy, taking the precaution, however, to take her wet nurse with her, and the baby recovered forthwith.

CASE 3. A supposed hourglass contraction of the stomach was introduced into a clinic, held for the benefit of a distinguished English abdominal surgeon, and, after preliminary demonstration by an internist, was operated only to disclose a stomach free from deformity or other conditions demanding operative interference.

Both cases 2 and 3 presented a number of symptoms of stenosis, but also of other and simpler conditions, and a proper recognition of the probabilities should have placed them in some other category, at least temporarily.

Again, it is a fair question to ask, in certain puzzling situations, What may a man be reasonably supposed to know and not to know? Even the luminous mind of Herbert Spencer reached these limitations; sadly enough it is true, but at the

end of his years he frankly admitted that he could see but a small segment of life, and even that as through a glass, darkly. Why should not we admit the same limitations? Such confession of the *boundaries of knowledge* is not only scientific, but appeals to the practical common sense of most patients.

CASE 4. A large, middle-aged traveling man presented himself with a slowly growing tumor, not very hard, but also not fluctuating, the size of a grape fruit, at the level of the navel and lateral to a line dropped from the right nipple. The patient had lost flesh, had slight sub-acute temperatures; was pale and cachectic, but not jaundiced; no colic, vomiting, or constipation, and but slight local tenderness. The findings in urine and feces were negative. The tumor followed moderately the movements of the diaphragm, was closely associated with, but under the colon, and could not be disassociated from the liver. The diagnosis was any man's, for there could be no positive answers to either of those two crucial anatomical and pathological questions which must be answered in every case if there is to be any true diagnosis.

What organ is involved?

What process involves it?

Incision down to the tumor at its most superficial point disclosed a retro-peritoneal mass, composed of layers of fibrin and inflammatory deposit surrounding a core of old semi-solid blood which had descended from the pleura under the *lig. arc. ext.*, had burrowed its way along the fascial planes in front of the kidney and up into the meso-colon. Closer questioning and examination during this patient's convalescence brought out a fractured rib—the result of a forgotten fall across a chair-back several months previously. It should be especially noted that the tumor in this case could neither be associated with nor disassociated from any of the important organs lying in its vicinity. The key to the situation was ignored in the history-taking.

And yet we have no right to put into any of these common ports of refuge of the indolent man until the real and available sources of knowledge are exhausted. We may rely as much as we please on common sense, and surgical instinct, and

the doctrine of probabilities—these when legitimately used are merely methods of applying experience to concrete problems, and involve no occult powers peculiar to people of genius. We may in a pinch even, as in the instances just cited, shelter ourselves behind the limitations of knowledge. But none of these processes improperly employed can excuse the failure to systematically seek out, classify, and weigh all available diagnostic data.

At the bottom then, of diagnosis, lies *educated method*, whether *consciously* or *instinctively* directed.*

II.

After this rough sketch of the scanty framework upon which all diagnosis must be erected, let us consider a few of the special problems and diagnostic resources of this great borderland region.

There is no more promising approach to a comprehensive grasp of retro-peritoneal diagnosis than one which takes *normal position* as a fixed point, but which traces, with the aid of an imaginative faculty bred of experience, the variations from that standard usually and primarily produced by *perverted function*. Thus we find ourselves recurring constantly and inevitably to our first years' studies in anatomy and physiology. And more so in these regions than in the extremities, for there we have a standard ready at hand in the companion limb to jog our flagging memories; whilst here, observation, memory and imagination—joint attributes of great intellects—must supply the deficiency.

* In a recent address the President of Yale made the far-reaching observation that education, by the study of abstract and often intrinsically useless subjects, teaches the *methods* by which the fully developed man solves the practical problems which come to him in his years of productive activity.

Many of us can recollect an instance of the operation of this great imaginative faculty, which sees the link joining the normal with the abnormal, in a memorable controversy of half a generation ago, between a teacher of anatomy, and the greatest of all American surgical pathologists. The point in dispute was the relation of the structures passing to the liver in front of the foramen of Winslow between the two layers of the hepatico-duodenal ligament. The surgical contention was that the portal vein encroached upon and menaced the approach to the common bile duct. The anatomist scouted the idea and produced textbooks and finally a pocket edition cadaver, with which to overwhelm anatomic doubts. The great pathologist—the discoverer of the ball-valve production of intermittent jaundice by stone in the common bile duct—listened silently to the demonstration, then responded: "Very good, very good, but I speak as a surgeon and a pathologist, and my relations are not yours." Those who operate upon the diseased and obstructed common duct have had occasion to confirm the literal correctness of his observation.*

The old arbitrary division of the abdomen by lines into geometrical regions is still the best, and no modern classification can surpass it in its clinical value. To each region anatomy assigns its own peculiar organ, and the clinician is justified in insisting that any organ suspected of having escaped from its own territory must have its identity proven beyond doubt. We can never forget that the enlargement found in the left hypochondrium *should*—anatomically—be spleen or kidney; an epigastric tumor should be stomach or pancreas, unless it may be a cyst of the lesser omentum; a hypogastric growth should be vesical or genital; inguinal tumors should be hernial or ovarian, caecal or sigmoidal; those in the umbilical region should be aneurysmal, intestinal, mesenteric or omental; and lumbar enlargements should be renal, colonic or appendicular. Nor

* Stones in the Common Duct and their Surgical Treatment: A. J. M. S., 1896.

should we forget that each organ is entitled physiologically to its own normal range of motion. On this anatomic basis we are justified in opening our investigation.

But right away we make two discoveries:

First: These regions are of concern mostly to the anatomist—it is the *dividing lines between them, and the encroachments upon them, which interest the surgical pathologist.*

Second: There are certain abdominal foci which represent centers of normal activity and which occur quite without relation to any arbitrary lines or divisions. These foci are apt to serve also as storm centers from which radiate morbid processes. Such centers are points where the different physiological systems come into contact, and here pathology also centers and the diagnostic trouble begins.

Consider, for example, the classical McBurney's point: Within a circle two inches in diameter we may find normally the inflamed appendix, the caecum, and the calculous ureter; but we may also find the abnormally high ovary, the low gall-bladder, not to mention the cold abscess, the dislocated kidney, and any wandering neoplasm which claims squatter rights.

We draw another circle of the same diameter and center it at the foramen of Winslow, midway on the oblique line from the navel to the costal arch. Here are normally, gall-bladder, common duct, pylorus, pancreas, duodenum—each capable, with its train of morbid phenomena, of rapidly deranging the functions of every other organ in the vicinity.

Within the first region the displaced ovary is dragged up and plasters itself to the inflamed appendix; the ureteral stone impounded at the pelvic brim draws the caecum or appendix into its troubles; the low and obstructed gall-

bladder apes the dislocated kidney or the distended appendix, and the inflamed omentum covers all. It is even on record that this region has been invaded by a pyloric cancer* developing in a badly prolapsed stomach. In the second region, the swollen membranes around the foramen of Winslow may mask the perforated gall-bladder, the obstructed common duct, the pyloric or pancreatic cancer, or the thickened gastric or duodenal ulcer. Every surgeon of ordinary experience has faced problems which have to find solution along these lines.

Here are several examples from these regions where the important question was—peritoneal or retro-peritoneal?

CASE 5. A fat woman, not jaundiced, presented herself with a roundish, movable tumor in the right lumbar region, lateral to and not covered by the colon. There was local pain, but otherwise no physiological derangement. There was good basis for suspecting either the kidney or the gall-bladder—which was it? Inflation of the colon by Ziemssen's classical method failed to separate the tumor from the loin, or to show that it belonged in the hypochondriac region. Manipulation, however, pushed it most readily forward and upward—it would not slip into the normal kidney position, and was, therefore, recognized as gall-bladder. Incision made cautiously, directly down to the tumor proved the diagnosis to be correct.

CASE 6. A young man entered the hospital with a round, finger-sized and shaped, painful swelling under the colon in the right lumbar region, well above McBurney's point. Several mild, previous attacks, and like this one, without fever. No vomiting, no constipation. Leucocytes, 20,000; polymorph, 84 per cent. Loin colic, but only moderately rigid rectus. Urine contained some pus. Was it the ureter or the appendix?

Diagnosis was reasonably clear, for the tumor was too far to the right to be the ureter—which is rarely displaced. Incision directly over the tumor disclosed a very high appendix lying lateral to the colon.

CASE 7. A fat saloon keeper came, after a

* Osler: Lectures on Abdominal Tumors, 1892.

previous operation for appendicitis, complaining that his pain was just the same. He was too fat to make out a tumor, but there was great pain on deep pressure in the loin. His urine was loaded with pus, and he had a constant evening temperature of 101. We incised and drained the enlarged kidney pelvis, but the temperature continuing for two weeks, it was found necessary to remove the kidney. After separating all of the organ except the upper portion, we finally tore that loose from some dense adhesions, and with it tore out the lower wall of a great subphrenic abscess, the existence of which had never been suspected. The patient had a good left kidney, and recovered perfectly in spite of repeated blunders in surgical diagnosis.

Now, strangely enough the spleen also frequently becomes the center of unjust suspicions. One would suppose theoretically that an organ so definitely located and so securely placed would hardly mix matters very seriously for any of its neighbors. It should be traceable, if enlarged or prolapsed, back into its pocket under the deeply concave roof of the diaphragm, and if it pushes downward it should also project forward and lie superficial to and cephalad to the colon, which falls with it. And yet my note book recalls two cases where, although I held a strong belief that the spleen could not be excluded, the culprit proved to be another organ.

CASE 8. A Montenegrin, who spoke no English, entered the hospital for treatment. His previous history was negative of all facts which could throw light on his present condition. In addition, the temperature, weight, blood, and urinary findings were negative. In the left side, projecting from beneath the ribs, was a roundish, solid tumor in which one could feel a notch not unlike that of the spleen. The tumor moved with respiration into the abdomen, but could be best felt in the flank. On inflating the colon, the tumor was still found to lie more in the flank than toward the median line, but the colon was displaced downwards. I erred in giving this latter point too great weight—the tumor was a large hypernephroma, pushing the spleen up and the colon down.

The respiratory mobility was transmitted to the tumor through the spleen. The key to the diagnosis was the great lateral growth into the loin *under* the peritoneum instead of toward the navel *within* that membrane.

In a second case, the spleen was called on to prove an alibi in another direction.

CASE 9. A parchment-colored and emaciated native, from the American Nile district around Cairo, wandered up to Chicago, with a tumor. The growth was larger than an Osage orange, and projected from beneath the left costal arch into the epigastrium and umbilical and left lumbar regions, but in a plane not usually invaded by the spleen. It could hardly be called movable, and its lower border was none too well defined. The tumor and the patient's history and residence suggested malaria; but although the red blood cells were reduced and irregular, there were no parasites, and persistent vomiting pointed strongly to the stomach. An analysis of the stomach contents after a test breakfast showed no blood, but hydrochloric was replaced by lactic acid. Upon this analysis a diagnosis of probable cancer of the stomach was based, although I held that the spleen could not be excluded. An incision showed a cancer of the distal extremity of the pancreas with secondary involvement of the greater curvature of the stomach. The spleen was normal.

We might thus multiply instances of situations where organs encroach upon and must be differentiated from one another, until our time has been exhausted. But enough has been said to develop certain added diagnostic truths with which to supplement our division of the abdomen into anatomic regions, physiologic centers, and pathologic boundary lines. The following simple generalizations will be found to harmonize with scientific views of the influence which normal anatomy has upon the development of disease:

1. The zones surrounding the different physiologic foci just enumerated, are well defined under normal conditions, but overlapping often occurs when the range of motion or of growth of the organs lying within them becomes pathologic. This

occurrence alone is strong presumptive evidence of disease.

2. In studying those cases in which change of position is a factor, we note two important aids to diagnosis:

a. Displaced organs—"unknown quantities"—when manipulated, still show their easiest range of motion *toward, rather than away from*, their normal centers.

b. Where an organ enlarges abnormally its direction of growth it still within the zone and cleavage plane normal to that organ, and rarely into or across new fascial planes. This last generalization is subject to apparent exceptions where large growths push the planes *ahead of them*, where malignant growths *involve all planes*, and where an intra-peritoneal growth takes on a pedicle. It finds its most brilliant application in the diagnosis of those chronic fluid accumulations which occur so frequently in the retro-peritoneal spaces.

III.

There is another important factor which we have separated somewhat from our study of *organic* diagnosis, because it has to do pathologically and clinically with a *process* rather than with an organ. I refer to that greatest and most confusing of all elements which cloud abdominal diagnosis—the *cold abscess*.

If we were looking for a universal point of departure for a system of differential diagnosis, we need go no farther than the study of the many-sided aspects of chronic suppurations. This phase of the subject we cannot study too much, nor can we see and remember too many of these cases, to keep us alive sufficiently to the fact that we have them always with us, and always under fresh disguise.

Let us analyze briefly some of the essential features of these pseudo growths and

pseudo organs—for such they invariably appear to the clinician as they occur in the retro-peritoneal space—in the hope that out of their apparent and invariable irregularity we may develop some sort of system.

1. They involve spaces and fascias, rather than organs, and when organs are involved in consequence of the anatomic arrangement of fascias, these are merely imbedded in the abscesses and are not a part of it.

2. Through the insinuating properties of the liquids of which these accumulations are composed, they follow the fascial planes more rapidly than do either tumors or organs, and are apt to assume elongated and unusual shapes.

3. But on account of their hard rind of fibrin and inflammatory tissue, as well as of the tense fascia which surrounds them, they rarely fluctuate and easily simulate roughly the adjacent solid organs or tumors.

4. But this similarity is apparent rather than real. The growth is atypical and the simulation, if closely pressed, *does not conform to type in vital particulars*. Organic diagnosis, whether of the normal or of the diseased organ, finds itself—as the French say—in an *impasse*, and this very fact should lead us to suspect the donkey in the lion's skin. In this phase of diagnosis, we should be ever on the alert to entertain suspicion, even if organic exclusion cannot be positively established. If "probability is the rule of life," we cannot escape here the doctrine of probabilities, for there is no patient too young or too old to be immune to infection, and chronic abscess is more common than any other pathological process.

5. More than elsewhere, do we find these cases clarified by a study of *the history*, for, as in one of the cases (3) already cited, the discovery of the half-forgotten traumatism to the chest would

have thrown a flood of light upon the atypical quiet tumor in the right lumbar region.

CASE 10. In another case I was fortunate enough, through a study of the history, to identify an enlargement low down in the left lumbar region, as a pulmonary abscess which had burrowed from the lung beneath the diaphragm and lumbar fascia. This patient was supposed to be dying of consumption. Temperature was hectic; expectoration was profuse, but without tubercle bacilli. The history showed that her trouble began with pneumonia, and physical examination showed the left lower lobe well broken down, with the rest of the lung in fairly healthy condition. The tumor did not fluctuate, but the inference was plain that the cause lay eight inches away in the lung.

Less obvious are those insidious cases in which the abscess drifts down from some forgotten trauma to the spine, or from traumatic hemorrhage so near the kidney or colon that quiet infection takes place after the lapse of weeks. Such cases are especially obscure when the temperature is only subacute and the white count but 9,000 to 11,000.

CASE 11. In one case the abscess pointed at the base of Scarpa's triangle, and was taken for an ilio-femoral aneurysm, on account of transmitted pulsation.

CASE 12. In another, there was a history of a bad fall, with subsequent inability to work on account of great pain throughout the pelvic and lumbar regions. Subsequently a painful, hard, irreducible tumor appeared in the groin, which many surgeons identified—for no particularly obvious reason—as a "traumatic hernia." Incision proved it to be a psoas abscess, and a skiagraph demonstrated a carious spot in the lumbar spine.

In these two cases the error in diagnosis was hardly excusable, for a reasonable inquiry into the history, and a more careful investigation into the local findings would easily have shown that the conditions suspected in each case were clearly impossible. In the first case the

most casual application of our ordinary knowledge of the stigmata of aneurysm would have effectually blocked that diagnosis—the pulsation was not intrinsic but transmitted; there was no bruit.

The same method should have saved the second case, in its travels from surgeon to surgeon, from an impossible diagnosis—an incarcerated and irreducible hernia could not have existed for twenty-four hours without the most fulminant abdominal systems—this patient had a soft, painless abdomen and normal bowel movements.

In another case, however, no such charge could lie, for several surgeons worked long and intelligently for a diagnosis before the operation disclosed the true nature of the disease. This case is cited in detail in order to direct attention to a practical application of a new and very important aid to diagnosis by exclusion:

CASE 13. E. M., a baker, aged 47, entered the Alexian Brothers' Hospital to be treated for chronic neuralgia and sciatica. He made his own diagnosis and was assigned to the medical service. He complained also of chronic asthma, due to inhalation of flour in his trade. The lung findings were negative; and the evening temperature was persistently normal, with a pulse of 60. The urine was normal; the blood was slightly deficient in red cells, and the white cells were 6,300. The sciatica was left-sided, and there was also pain along the anterior crural nerve. Treatment was antirheumatic. After several days an irregular tumor was discovered in the left abdomen, which was described by the history-writer as kidney-shaped, but which was, on more careful examination, found to consist of two somewhat distinct masses—a small one beneath the costal arch joined to a larger one near the sigmoid. Inflation of the colon showed the tumor or tumors to lie behind that structure, and covered by it, except where the size of the growth caused it to project into the flank. The growth was hard, non-fluctuant, and fairly movable, but only the upper mass moved with the diaphragm. By the medical officer, the tumors were thought to be primary and secondary sar-

comas of the kidney, and the patient was referred to the genito-urinary service.

Repeated examinations of the urine, drawn by ureteral catheters from the separate kidneys, gave only normal findings. A lead probe was, therefore, introduced into the pelvis of the left kidney through the ureter, by Dr. H. L. Kretschmer, under the direction of, and by the method described by Dr. L. E. Schmidt.*

The patient was then skiagraphed with probe *in situ*. The plates showed no stone and no tumor shadow, but the ureter was shown to be displaced toward the spine, and the probe passed well beyond the tumor region, thus excluding both kidney and spleen.

On these findings the patient was transferred to the general surgical service, with a probable diagnosis of cancer of the bowel developing into the mesentery.† In this diagnosis I could hardly concur, for there were no bowel symptoms such as should have been caused by so large a growth—distension, obstruction, mucous or bloody stools. Inasmuch as there was no spinal pain or deformity, I still suspected a new growth near but not connected with the lower pole of the kidney, and not involving the ureter. The age of the patient made sarcoma more possible than probable, and a suspicion of fluctuation recorded prior to the operation made it not impossible that we were dealing with a cyst from the lower pole of the kidney.

It was at this point that the doctrine of averages should have found recognition, for what more natural than to remember that a swelling, painless and irregular, possibly fluctuating, and incapable of certain association with any organ, should be a cold abscess? On the other hand, the absence of temperature, the painless, normal spine, the advancing age, the failure to elicit a history of trauma, all pointed away from that conclusion.

There was nothing in this case to give positive support to the diagnosis of abscess except the doctrine of averages, and the great surgical truth that *malignant disease is usually of organs—chronic abscess of fascial planes and spaces* with all the irregularity of form, development, and location, which fascial anatomy implies. And yet the tumor proved to be an

ordinary cold abscess, and subsequent skiagraphy showed it to have originated from a quiet, carious process in the body of the second lumbar vertebra.

IV.

It would be a grave omission if we failed to mention—even in this superficial enumeration of the more puzzling clinical aspects of retro-peritoneal diagnosis—the parts played by *pain* and its great twin sister, *hysteria*. I do not here refer to patients in whom there is obvious tumor or obvious variation from physiologic standards—such can be safely studied along objective lines. But there are many cases through which, to the surgeon, pain moves like a minor and elusive motive, and he can neither silence it nor seize it, because the key in which it is pitched is altogether subjective. Yet to the patient, pain is no secondary overtone, for in the absence of its vibrations many a tumor has reached a hopeless size even before diagnosis has been sought, and many another pathologic deposit thus solely announces its presence subjectively long before the mere volume of its fundamental makes it known to the surgeon. Such cases present psychological phases which call out the real genius of the diagnostician, and no child, either in surgery or worldly wisdom, can solve them. For oftentimes—in patients suspected of hysteria—they demand an analysis of occult motive, and a weighing of the genuineness of pain, which would do credit to a prosecuting attorney.

Now, whatever may be said about “the curative effects of operations *per se*, in hysterical patients—and we should not be slow to acknowledge that for the hysterical patient, who can be positively identified as such, there is nothing so much deserved and so calming to the troubled soul as cold steel—the surgeon, at least for the honor of his craft, should under-

* Schmidt and Kolischer: J. A. M. A., 1901.

†A very similar case is cited by Osler: Lectures on Abdominal Tumors, N. Y. M. J., 1892.

stand, and should record beforehand upon his operating book, his diagnosis and the object of his incision.

It is a grave question whether pain, which the surgeon believes to be genuine, existing alone and as the solitary symptom, can ever justify him in cutting either into the peritoneum or into the retro-peritoneal space. My own experience in thus venturing for exploration into these great, dark labyrinths, with no other guide than the expression of pain, have been sad indeed.

CASE 14. An old friend, a very stout, florid woman, at the menopause, came to me complaining of pain in the left iliac region, and of continued hemorrhage from the bowel. I found no hemorrhoids and no cause for bleeding. She took purgatives constantly, complaining of obstinate constipation; she had a good appetite, and was losing no flesh. She took a very gloomy view of her case, and wished an operation. I refused, sent her to a colleague for an opinion; he thought her symptoms suspicious. On account of her size I still hesitated, but under pressure consented to use the sigmoidoscope and to remove a few tags of hemorrhoids. The sigmoidoscope showed nothing, but she presently returned and urged a laparotomy. This was performed, and the sigmoid and iliac regions were thoroughly explored, in spite of enormous deposits of fat. Nothing was found, and the patient died on the seventh day of ileus. *Her sister had died a few months before of cancer.*

CASE 15. *Aus meiner docentzeit*—not my case.

A nervous young school teacher complained of pain in the right loin, radiating into penis and testicle, with frequent and painful micturition—as often as every twenty minutes; the urine was strongly acid, but otherwise negative. This patient cheerfully went through four operations—the last a nephrectomy—and died after the last through the slipping of a ligature placed on the renal artery. Absolutely no anatomical basis for the pain was found at the post mortem.

In these two cases, literal acceptance of the patient's statements led straight to the operating table and the dead house, and yet, in the light of the result, we can

see that there was not a single symptom, either objective or subjective, which did not pass through and receive improper and exaggerated color from a panicky patient. It is a fair question to ask whether the patient or the surgeon was most the victim of hysteria.

There is, however, a certain morbid yet legitimate delight, which probably every surgeon has felt, in allowing plainly hysterical patients to reach the operating table, simply by permitting their vicious and lying symptomatology to work itself out to a logical conclusion. We may fairly ask, Why not take such patients at their word, and let them suffer the consequences? But always with our eyes open.

CASES 16 and 17. Two hysterical patients, complaining of pain in the left kidney, were operated upon without other symptoms and without operative findings. One, a fat, old party, with chronic hospitalism, was operated by the loin route, and the kidney fastened—no result; she lived, of course. In the other—long known to the operator as a hysterical offender—a median incision was made; a nephroptosis was present on both sides, but inasmuch as pain was only present on the left side, the kidneys were not touched. A retroverted uterus was treated *a la* Alexander-Adams. This patient became pregnant presently, and forgot her loin pains in more genuine twinges when the round ligaments commenced to tighten up.

In this connection we should not fail to note the close association so frequently observed between hysteria and the various forms of visceroptosis. It is hardly safe, however, to attribute the morbid mental state to the ptosis—more probably the two derivatives lead back to common roots in malnutrition and venous stasis in all the body cavities.

In the writer's experience, operations have no terrors for the hysterical, and there is nothing gained by trying to scare such a patient out of her pain—in fact the mere hint of an operation is often

seized upon as a source of renewed excitement, and the victim takes positive pleasure in mounting the operating table.

On the other hand, the mere existence of unidentified pain and the willingness of the patient to undergo repeated operations are no positive evidence of hysteria. To the student who combines the study of human nature with that of surgery the following case will have a deeper significance than when studied merely as a problem in diagnosis:

CASE 18. A hard-working, good-looking Irish woman, of thirty-five, was employed in the millinery department of a large store. Her occupation justified a certain amount of hysteria, but she was possessed of unusual intelligence and poise. Her interesting and suggestive history was as follows:

About a year ago she commenced to have pains high up in the rectum, with rectal and vesical tenesmus and occasional incontinence. Her menstruation was more than usually painful, and she had pains in the thighs and in one great toe, alternating with numbness, and acute cramps in the same calf. There was also a constant and oppressive deep pain in the back, in the sacral region. During the year she had been operated twice—the rectum, cervix and urethra had been thoroughly stretched, and the rectal mucosa had been trimmed clean of various supposedly offending polypi. Still the pain, etc. My net finding was a retroverted and adherent uterus, with a suspicion of a large right ovary adherent high up. Abdominal palpation showed nothing. Median laparotomy was frankly exploratory. The theory was the usual one of retroversion, sacral adhesions, hard work, referred pains, with a liberal allowance of easily accounted for hysteria. After freeing adhesions and raising the uterus, the finger sweeping over the rear pelvic wall detected, beneath the peritoneum and quite out of sight, a hard tumor the size and shape of a half-plum and growing from the sacro-iliac cartilage. The tumor was admirably placed to elude detection by either abdominal or retro-vaginal palpation, and but for the instinctive and final exploratory sweep of the finger, would probably have remained undiscovered, until the slow growth of ensuing years would have brought it within palpating distance. The tumor was

a metastatic deposit from a hypernephroma. (Report of Dr. LeCount.)

Such a case gives us pause in the too free use of those diagnostic refuges, "hysteria," and "referred pain."

V.

To sum up these very fragmentary observations, let us formulate a few conclusions, bred of that sober second thought which comes from the contemplation of personal catastrophes.

Method—educated method—lies at the bottom of all diagnosis. The genius for surgical diagnosis is rarely anything more than systematized knowledge.

Take no man's word in abdominal diagnosis—do your own guessing, but do it scientifically.

Recollect that abdominal diagnosis, like all applied knowledge, has its limitations—it is more scientific to announce that they have been reached, than to confess error later on.

"Probability is the rule of life," and the rule holds equally good between the ribs and the pelvis.

Abdominal regions are for the student of normal anatomy; boundaries concern the surgeon and the pathologist.

Displaced organs still move most readily toward their normal habitat.

The growth of the abnormally enlarging organ is still apt to occur within the zone and fascial plane normal to that organ: such growth is usually *along*, rather than *across* the normal cleavage planes; to the surgical pathologist the part of anatomy which is most profitably studied is that which concerns the distribution of fascias.

Neoplasms are usually closely associated with *organs*; the irregular and atypical enlargements which follow fascias rather than organs, are apt to be either second-

ary deposits or chronic suppuration—more likely the latter.

In case of doubt, never forget that arch deceiver, the cold abscess.

Chronic suppuration is rarely recognized by the direct method—the rule is *diagnosis by exclusion*.

Attention is especially directed to the history sheet, the temperature chart, the blood count, and the urine analysis report.

Inflation of the colon by Ziemssen's method often enables us to assist diagnosis by crowding the tumor into one of the other spaces in front of or behind the posterior layer of the peritoneum. If the growth is found by this method to be retro-peritoneal, study the kidney again by palpation, urine analysis, the X-ray, and finally, by metallic ureteral catheterism combined with skiagraphy.

The neglect to recognize and properly appraise hysteria is as frequently a cause of the miscarriage of diagnosis as is the failure to identify the cold abscess.

During those impressionable years which succeed every man's graduation from college, the writer served in a large hospital, and followed many cases from the medical to the surgical wards, and often—it must be confessed—to the dead house. It was our privilege—which even then we recognized to be a glorious one—to serve under a man who thought little of time or money, and much of the honest foundations of his great art in diagnosis and pathology, Christian Fenger. He made mistakes, but under the inspiration of his method they were to our fecund minds more vitalizing than the triumphs of other men. For from his own errors, he taught himself and us, and led the way to a keener search for future truth. "Did we observe all the observable facts? Were the facts distorted by passage through refractory media or by incorrect methods of observation? Well, then, our

deductions were wrong, and we must observe and reason better the next time."

DISCUSSION ON THE PAPER OF DR. ALLPORT.

DR. BATTLE MALONE, Memphis:

Mr. President—It has been a great pleasure to me to listen to this very instructive and very valuable paper of Dr. Allport's. I have been very glad to hear it, but I am somewhat at a loss to know how to discuss it. However, if we were to discuss the many errors in the diagnosis of retro-peritoneal enlargements, I fear the discussion would be longer than the paper. There are one or two points in particular which I think should be emphasized. The doctor brought out in the first part of his paper the importance of our acknowledging freely our inability to make a diagnosis when we cannot arrive at any positive conclusion as to what the trouble is. We know that in these retro-peritoneal enlargements we may have many things that may be the matter with the patient, and frequently it is absolutely impossible for us to say positively or with any degree of accuracy what the diagnosis is. Along this line, I recall a case I had several years ago. The patient gave only one symptom, and that was a constant excruciating pain which was referred to the lumbar region. I very frankly told the people, after exhausting every method of diagnosis I could think of, that I did not know what was the matter with the man, and they naturally asked for a consultant. The consultant came in, and after an examination, which was not very exhaustive, said the man had a tubercular spine. To my mind the symptoms of tubercular spine were lacking; but on the strength of the diagnosis of the consultant the patient was sent West, and three months later died suddenly. Post-mortem examination showed aneurysm of the internal iliac artery. The point is the consultant was wrong in the diagnosis.

Another point Dr. Allport brings up—and we are all compelled to agree with him, although we neglect this sometimes—is the care with which we ought to take our histories, and that of course, applies where we have a patient with a retro-peritoneal condition to deal with. In the South especially, we know that many times the history is absolutely misleading, particularly if we have a negro patient to deal with. You may take the history of a negro patient today, and tomorrow she or he will

make statements that are absolutely at variance with what they said when they first consulted you. We are misled by inaccurate statements, but notwithstanding this, we should not neglect the taking of a very careful history where we have these patients to deal with.

There is only one other point that I would mention, that is with reference to the one brought out by Dr. Allport as to the inadvisability of operating on neurotic patients where we have only pain as a symptom. I have operated a few times because of extreme pain complained of by the patient, where there was no definite pathologic condition which could be demonstrated, and I do not think any good was accomplished by it. I shall be chary of opening the abdomen in the future unless I know there is some pathologic condition there that I am going after. Sometimes we resort to exploratory operations and are entirely justified in so doing, but, generally speaking, unless there is some pathologic condition I do not think we should operate.

Dr. Allport has given us some valuable and helpful points in diagnosis, and I am very grateful to him, and appreciate very much his coming down here from Chicago and giving us this instructive paper.

DR. BRANSFORD LEWIS, M.D., St. Louis, Missouri, was asked to take part in the discussion. He said:

I consider it a privilege and a great benefit to have listened to a scientific study of the subject of diagnosis of abdominal conditions, such as we have heard this afternoon. I do not believe any contribution to medicine or surgery, as a general thing, is more valuable at the present day than one on the subject of diagnosis. In both medicine and surgery, if we have fallen by the wayside, it is in the matter of diagnosis, and we have not progressed so rapidly in this department as we have in the technic of surgery. I heard yesterday and today expressions that I can applaud with the most heartfelt sympathy, such as those of Dr. McGannon about the absolute necessity of making a correct diagnosis. How are we going to make a correct diagnosis? We cannot do it in many instances by relying on the symptomatology. Even if we take the symptoms and history of a given case, they may lead us absolutely astray so far as the diagnosis is concerned. The history and symptomatology of renal troubles is notoriously misleading. Within the last two weeks I have had two different patients brought to St. Louis—both women—

with marked hematuria, who had persistent blood in the urine covering a number of months, and persistent pain in the right renal region. These patients and their doctors were both convinced that they had difficulty in the right kidney. There was a demonstration of bloody urine in connection with pain; yet ureteral catheterization showed the urine from the right side was healthy, while the bloody urine came from the left side. If they had operated on the right side, according to the symptoms, a mistake would have been made. Reflection of the pain from the unhealthy side over to the healthy side is not infrequent.

You can take the literature from the best men in this country and you will discern a tendency every once in a while to ignore the demands of absolute comprehensive physical investigation before they go into exploratory operations. I have talked to surgeons themselves on the subject, and I have called attention to lapses in this way, and they could not deny it. Take, for instance, the subject of ureteral calculus, in which reliance is placed on the X-ray findings. The patient gives a history of pain in the right ureteral region; there is pus and blood in the urine; an X-ray is taken, and there is found a shadow in that region. The surgeon goes in on that basis and opens up the right ureter, and fails to find any calculus in there, and it is only a phlebolith in that neighborhood. I grant you, every surgeon has a right to make mistakes, and we all make them, but only on the basis of complete investigation and the use of everything at his command that he is capable of using and applying to that patient. If he makes a mistake after all these exacting methods have been carried out, he is excusable. We are all fallible, and not infallible. I do not believe a surgeon is justified in making an exploratory ureterotomy based simply on the findings of the history and the X-ray alone, nor would I grant it is proper to open up the ureter based on the history *plus* the ureteral catheterization without the X-ray. A good many argue as to which is the better, an X-ray investigation, or ureteral catheterization, for determining a diagnosis of renal or ureteral stone. I do not care which is the better; I want to use both of them, because I think we ought to avail ourselves of every method under the sun that is capable of enabling us to make an exact diagnosis before we operate. This study of Dr. Allport tends to exactitude in investigation, and that is what we want to aim at before we undertake treat-

ment. The first necessity is exactitude in diagnosis, and treatment ought to be thought of only after a correct diagnosis has been made.

To illustrate what I am talking about, in a paper I contributed some time ago to Surgery, Gynecology, and Obstetrics, on the subject of "Pitfalls in Urinary Diagnosis," I brought up the question of the physician or surgeon's duty in the presence of blood in the urine. Most of the profession, under such circumstances, endeavor to stop the blood in the urine, and in so doing I believe they are doing a serious injustice to the patient; because I believe the most urgent duty of the physician is not to stop the appearance of blood in the urine, but to try and discern where it comes from, whether it is due to cancer, stone, or tuberculosis, and give the patient the best chance, based on an accurate, scientific diagnosis. Many a patient goes into his grave the subject of cancer or malignant growth, because the early bleeding was suppressed by the use of the thyroid extract, stypticin, or something of that sort. The diagnosis has been put off for six months or a year, at the end of which time the cancerous growth has become so far advanced as to put the case beyond the reach of operation.

DR. FRANK D. SMYTHE, Memphis:

I regret having heard only a small portion of the paper, but, judging from the subject of the paper it should have proven interesting and beneficial to the Association.

I am not in position to discuss such points as may have been made by the essayist, but as a practicing surgeon, I often need light, and suppose that others are in the same fix when confronted with an intra-abdominal swelling, especially retro-peritoneal swellings.

It is impossible, in my opinion, for any one to lay down rules that will enable a physician or surgeon to make a correct diagnosis in all cases prior to operation. I hope that the Doctor has contributed something to our present knowledge on this important and often perplexing subject, to which much importance is attached. Without a history of the case, carefully taken, it is out of the question to arrive at a positive diagnosis.

Dr. Lewis has cleared up the situation somewhat as pertains to the diagnosis of kidney and ureteral lesions, and we thank him for that.

To one familiar with the progress and natural course of diseases a history of the case correctly taken will enable such a one to arrive at a

reasonable diagnosis in the great majority of instances. Knowledge of the etiology of diseases, especially of the infectious diseases affecting the genital tract and the rectum, and remembering that such diseases metastasize by way of the lymphatics or blood vessels, such knowledge is most important and will often help in arriving at a correct diagnosis in a given case, and also the cause of the trouble.

Failing to take advantage of the above facts in the future course of troubles, is something like being at sea in a ship without a rudder, and patients are subjected to operations unnecessarily and unsuccessfully.

There is no excuse for doing an abdominal operation unnecessarily. There is, however, one for a man being unable to make a positive diagnosis, preoperative, in all cases.

Every case subjected to operation should reveal pathology sufficient to justify the operation. Ability to determine accurately what the nature of the trouble is beforehand is a different thing. The custom of operating upon patients suffering from neurosis, locomotor ataxia, arterio-sclerosis, etc., for appendicitis, gall stones, or duodenal ulcer, etc., should justly bring us into ridicule and disrepute in the public eye. Patients are not benefited by any operation where the operation is performed as a means of suggestive therapy.

We should operate for troubles requiring operation, and do all we can to make a correct diagnosis before the operation is performed, but whether we succeed in so doing or not, I insist that there is no excuse for subjecting any patient to an unnecessary operation, though a justifiable exploratory operation may reveal a condition not amenable to surgical treatment.

DR. ALLPORT (closing):

If my paper has any value, it is in directing attention to the great importance of diagnosis. We have left this matter too much to our internal medicine man. The surgeon seems to be satisfied if he cuts on the strength of the diagnosis of some other man; or else, as Dr. Malone remarks, with reference to his recent consultant, the latter makes a snap diagnosis. To my mind there is nothing in diagnosis that implies ease. Accurate diagnosis means a good deal of hard work. It means that we should summon together facts, avail ourselves of all available diagnostic methods, and finally formulate an opinion. The most distinguished men in our profession would seem to me to be

those who have not been operators, but diagnosticians. Consider, for instance, the position which Professor Osler occupies at this time in international medicine. Although unquestionably the greatest of Anglo-American medical men today, yet personally, as well as in his writings, he is a quiet, modest man, whose chief genius is hard work, with the humility to admit either temporary failure, or insufficiency in his observations and deductions. Yet he sticks to his cases until he is able to make diagnoses. As an internist he takes pride in the use of every resource leading to diagnosis, before letting his patient go to the oper-

ating room. In his "Lectures on the Diagnosis of Abdominal Tumors," we find many cases studied for periods of months. He would change his tentative, or "working" diagnosis from time to time, ultimately arriving at a correct fixed opinion, before the patient finally reached an operation or a post-mortem examination. That is hardly like the opinions ventured by the type of men cited by Dr. Malone. Would that there might be a serious revival among surgeons of the old art of "surgical diagnosis," and that the modern "exploratory laparotomy," might become a function reserved for the dead-house.

HOME TREATMENT OF TUBERCULOSIS.*

DORA LEE WILDER, M.D., KNOXVILLE.

IN the past decade the best efforts of medical workers in all civilized countries have been directed toward the prevention and cure of tuberculosis. No other communicable disease has attracted the attention as this, our most hopeless, and from an economic standpoint, our most expensive.

From this interest there have resulted laborious scientific research, detailed clinical study, effective organizations for its control, and an inexhaustible supply of literature. In view of the innumerable factors inherent in a problem of such magnitude, it is impossible to here attempt a consideration of other than a single phase of this great question—in a phase that confronts every practitioner of the day, and that is, the curability of the disease.

It is generally admitted that tuberculosis is a preventable, curable disease. Now, as this is true, why don't we prevent and cure, as we have the means in our hands to do both? Organized effort is now directed toward prevention, but the subject is of such magnitude that it would require a whole paper to outline the campaign.

But you hear little of organized efforts in effecting cures. Why is this? Have not we faith in our own knowledge? We have the knowledge; why not put it to use and cure this dreaded disease, that has harried our existence through centuries?

In almost every communication on the treatment of pulmonary tuberculosis in which the curability of the disease is dwelt upon, the fact is set forth that an early diagnosis is the first condition, and that this must be made by physicians in general practice, who, as a rule, are consulted at a time when the symptoms are not yet developed to a degree that the affection is of easy recognition; and therefore when the disease is in the early curable stage.

In published papers on the diagnosis of the early stages, the same facts are insisted upon, and every sign and symptom has been described and analyzed for the general practitioner's benefit so often, and with such uniformity, that there is little to be added, and the general practitioner, if he has read any and studied one in a hundred of these appeals for his coöperation, must be presumed to know all about the importance, and the mode of examination which are to preserve him from

*Read by title,

error in dealing with the class of cases under consideration.

Without doubt the wisely directed sanitarium plan of treatment is the best method, but we should not forget that the great majority of patients are for one reason or another obliged to remain at home and do the best they can there; often without being in a position to give up their environment or their occupation that presumably has had a part in the development of the disease, or in the outbreak of subjective symptoms, until obliged to do so by physical inability to continue. These patients remain under the care of their family physician, who must improve and follow the best methods they can, and these consist at the present day in as good feeding as the patient's circumstances afford, in securing life in the open air, and in the treatment of symptoms as they arise in sufficient importance to demand treatment.

Heretofore we have thought that we must have climate to successfully combat the ravages of the disease, and while I freely admit that climatic change has its influence, not so much on the disease itself as it does on the mental status of the patient, as the blue sky and bright sunshine are remedial agents direct from God; and we have our share in Tennessee, so our percentage of cures ought to be greater, with concentrated effort and patience with our patients.

The Emmanuel Church of Boston in its class methods of treatment has done more than any other movement in proving that cures can be made at home and in any climate, and not only cures can be made, but a large percentage of cures and arrested cases will be the result of systematic and faithful application of rational methods.

Dr. Joseph H. Pratt is really the founder of the system of treatment, but it was built upon the scientific experiments of a host

of other investigators. It really consists of four skeins:

The Air Cure.

The Food Cure.

The Rest Cure.

The Mind Cure.

These are interwoven into one beautiful web, which has for its pattern, results. Let us take these up, skein separately: First, air, and pure air must be had at any cost. This necessitates living outdoors. If the individual has to work, he can at least sleep outdoors. If anyone thinks it is the same thing to sleep in a room with the windows open, as to sleep outdoors, personal experience will soon convince him of his mistake. All patients should be required to sleep in the open air. This will prove no hardship even in winter, as plenty of blankets and warm clothing keep them comfortable. Protection from rain and snow can be secured by tents. Tents measuring seven feet by seven feet, with an extra fly, can be obtained for the sum of \$7.25. It should be understood that the tent is simply to furnish shelter in the time of storm, and that at all other times the bed should stand exposed to continuous currents of fresh air. In crowded cities roofs and balconies may be used with advantage to secure outdoor living.

If you can, persuade your patient to stay in bed all the time, at first—but that properly comes under the rest cure—so much the better for the patient and the rest of humanity; as it entirely removes the source of house infections. So many patients are careless with the sputa, in spite of the time you take to warn him or her of the danger, not only to themselves, but to others; but if you have the bed outdoors, nature's disinfectant, sunlight and rain, render him practically harmless. This especially applies to the more advanced cases. Some of you may raise the objection that your patients won't live outdoors; but I am sure that if you will

take the time to explain that it is the only chance, and if your personality and results are sufficient to impress them with the advisability of their following your advice, you will find them wonderfully good about carrying out any suggestion you make.

Owing to the wasting process set up by tuberculosis, an abundance of simple nourishing and fattening food is necessary; our great desire, of course, is to turn the loss to gain as quickly as possible, and this can only be done by plenty of easily assimilated food. Don't make the mistake of overfeeding and upset the digestive organs, thereby defeating the object in view. The chief articles of diet are milk, eggs, fresh fruit, and olive oil; also good steak when the meat trust is strangled to such an extent that our patients can afford the now great luxury. Give olive oil after each meal; as a simple fat producer it has no superior. The old superstition in regard to cod liver oil is now generally abandoned, as olive oil is much more palatable and cheaper. Individual taste may be consulted where possible, and I thoroughly believe that the foods that delight the eye and tickle the palate do us more good than those less pleasing. But if the patient has no appetite to pander to, then resort to the forced feeding of milk and eggs.

It is the disregard of the essential element of rest which has hitherto made the home treatment of tuberculosis so barren of results. Insist upon rest in bed in the open air. It is easier to keep a patient in bed all the time than only part, and the immediate improvement in pulse and temperature more than justifies this radical procedure. Dr. Karl Von Ruck, of Asheville, N. C., claims that this method, in addition to his specific treatment, will absolutely cure every early case of tuberculosis. "If you keep your eyes aloft, your thoughts

will shortly clamor after them," and nowhere is this so true as in the treatment of tuberculosis; encourage your patient in the belief that he is improving, and the first thing you know his mental state is showing in actual weight. Teach them scrupulous attention to the details of personal cleanliness; also have them exercise great care in the disposition of the sputa.

One detail of treatment to which I refer is practiced by Dr. C. L. Minor, of Asheville, N. C., and that is the diary, or record book. He has his patient keep a notebook, in which he records all the important events of the day; the state of the weather, the number of hours in the fresh air and in sleep and rest, the exact amount and character of food he has eaten, how much he has coughed, his temperature, taken at an interval of every two hours, etc. This plan is being adopted now by the best of specialists the world over.

I have purposely refrained from mentioning drugs, as you will find that with the patients resting in open air, the cough and toxic symptoms quickly diminish so that medicines are rarely needed. The adhesive strip for pleuritic pain should be a routine procedure. Specific remedies have proved somewhat disappointing, but that may be in part due to their use in unsuitable or unselected cases.

But the scope of the present paper is not calculated to be a detailed analysis of the various remedies, but to call attention to what may be accomplished in the treatment of pulmonary phthisis at home, and to show that the general practitioner can improve his results to such a degree that in the earliest stages, at least, permanent recoveries will become the rule instead of rare exceptions, and under conditions which differ in no way from the ordinary, either in special facilities, climate or expert training and experience.

THE NERVOUS UNFIT.

S. S. CROCKETT, M.D., NASHVILLE.

It may have been the original intention of our Creator that all human creatures should start the race of life with the same equipment of physical and functional strength, and many generations back in the history of the human family such may have been the case. The profession would be relieved of an ever present problem if all of God's favored creatures acted and reacted alike to the responsibilities of life, to the daily fight for bread, to the wild chase after wealth, to the exacting demands of social responsibility, with all its joys and sorrows, with all its pleasures and disappointments, with all its cares and comforts, with all its successes and all its failures.

That so many fall short in being able to stand the tension of life's responsibility and fail to fill their measure of work at the end, is due,

(1) To some local or general pathology developing that puts an end to their existence;

(2) To some pathology, local or general, resulting not in death, but in incapacity;

(3) Incapacity without local pathology being clinically present. The latter class may be divided into

(a) Those overtaken by mental incapacity, and

(b) Incapables—mentally sound.

It is to the latter class that I beg to direct your attention for a short time. The cases of this incapacity, in those mentally sound persons, without any local pathology being clinically present, may vary in shades all the way from those very slightly affected at all, to the "ne'er do well," or the chronic bedridden invalid,

that has long since abandoned all effort except that of complaint.

Some of these cases seem to be of congenital origin, consanguinity or inebrity of parents, or the presence in the parents of other neurosis or psychoses, having all been charged with causal responsibility.

Our social and educational systems are perhaps answerable for many of the cases of acquired incapacity. The more strenuous and exacting the occupation, the greater and the less interrupted the tension on the nervous energies, the more numerous the victims. The mad, merciless mania for money, the pitiless pride for preferment, that our neighbors may not appear better than ourselves, the great and criminal lack of individual attention to students in educational institutions, the too early exactions demanded of the nervous to the detriment of the physical side of the growing child, the unpardonable sin of our ever recurring written examination, with all its attendant evils, and many more might be mentioned as causes of its acquisition. Neither age, race, sex, nor social condition seems to afford immunity.

The good housewife seems to furnish the greatest number of sufferers, and well may she plead justification. The continual grind of domestic routine, the determination of what to have to eat and how to have it prepared, three times a day, every day in the year—and then begin all over again for another year, for a whole lifetime; the ever present servant problem, with its yearly increasing magnitude, the vigils of maternity, the education and clothing of children, the daily combat with the butcher, the baker, ice man, laundry man, *et id omne genus*, each demanding a

larger proportion of her allowance, not to mention the exactions of her social environment, constitute a draft upon her nerve energy that would bankrupt any but an inexhaustible supply.

The financier who presides over the exchequer of a large enterprise, whose perplexing problems follow him home at night to disturb his domestic tranquillity and rob him of sleep, whose hasty meals are sandwiched in between the reading of the market quotations and telephone messages, etc., is often overtaken by an incapacity that seems unwarranted considering his age and physical condition.

The minister, the ambitious student at college, the teacher, the professional man, and especially the schoolgirl, furnish large numbers of recruits to this ever increasing army of incapables.

As paradoxical as it may seem, many cases are observed among the unfortunate unemployed children of wealth, who have never tasted the absorbing diversion of earning their daily bread; who have so little to do that it is an effort to keep themselves physically fit; who are constantly begging for a potion for a night's sleep, and who are strangers to that kind of slumber that has to be fought off, till a task is done; whose organs of elimination from lack of physical activity are as foul as a surface sewer, whose digestive organs from early and long continued overindulgence, have long since lost all that compensation that food brings to honest toil; whose principal occupation and whose greatest delight seems to be in the contemplation of their own sensations. This class elicits our constant pity and commiseration.

These various groups of cases present a protean picture: headache, backache, tender spine, tender nerve endings; gastric and intestinal disturbance, abdominal pain and tenderness, constipation,

flatulency, occasional mucous diarrhœa, disturbed and painful menstruation, palpitation, tachycardia, dispnœa, cold extremities, hyperæsthetic and anaesthetic areas, exaggerated reflexes, tire, inattention, inability to work, irritability, weakness, introspection, discouragement, hopelessness, chronic incapacity or invalidism. And all this while they are yet young and in apparently good physical condition.

The correct recognition and proper management of these cases constitute an ever present and trying problem, involving too many fatal errors.

The ready appreciation of the central origin of this incapacity is beset by two great stumbling-blocks:

(1) These patients, from constant introspection and analysis of their own symptoms, assume to diagnose their own cases. It seems so simple: the stomach and intestines are upset, and there is abdominal pain and tenderness—the trouble is abdominal; or there is constant pain in the back, with menstrual disturbance—the trouble is located in the pelvis; or there is intermittent or constant headache that is made worse by much use of the eyes, hence there is certainly some error of vision; or perhaps there is tachycardia, palpitation and dispnœa, and heart disease is assumed.

Having made a diagnosis, they at once elect to place themselves under the care of some professional man who devotes his activities to the treatment of the particular organ complained of, and then there develops the second stumbling-block, which seems to have resulted from the following fact:

(2) The limitation of our endeavors to any special line of professional activity seems to exaggerate and magnify that particular work in our minds until our perceptions are so restricted and our point of view so contracted that we are blind to

all else, save those organs and tissues in which we are taking special interest. This seems to result from a one-sided development of our powers of observation, and is not limited to any special line of work.

Unhappily, the medical profession has not been able to rid itself of the mysticisms that still surround it in the eyes of the laity, and when a man makes a reputation on a certain line of work, the public assumes that he at once becomes an authority on all branches of the science—a soft impeachment that is rarely corrected—and one even at times indulged in by the man himself. Hence we see the doctor often falling into the same error as the patient, and diagnosing pathology in that complaining organ to which he is directing his special attention. That error is, however, as previously stated, not limited to any special line of work. These patients usually run the gamut of the profession and are successively fitted with beautiful glasses, have their stomachs washed out for a longer or shorter time, and then have a gastro-enterostomy done; the appendix is next removed, to be followed by cholecystotomy, uterine and kidney suspension, perhaps removal of tubes and ovaries, dilation or sewing up of cervix, removal of hemorrhoids, perhaps an old stricture dilated, or the seminal vesicles massaged, and after all these procedures have been followed by brief improvement upon the idea that each succeeding new medical attendant has just really discovered the cause of all the suffering and is going to furnish the long expected cure, the patient, if enough has been left to carry on his vital functions, then either becomes a victim of the infirmity habit, chronic neurotic incapable, or drifts into the ranks and becomes a noisy disciple of some of our dietetic or religio-fanatic co-workers.

Is it not possible for us to draw a valua-

ble lesson from our experience with these people? That the various diagnoses of so much local pathology could not possibly be correct, is beyond question; that improvement followed the treatment and assurance of relief in each instance may be true, yet a cure has not been effected. The hope and expectation of promised relief and the confident assurance of each and every new medical adviser that relief would follow each new treatment has conveyed to the confiding patient's mind the suggestion that that particular organ would be relieved, and it usually is for a longer or shorter interval. But is it not possible for us to approach the subject from a higher and broader point of view, and secure more permanent relief, by

(1) Fixing steadily before our own minds, after thorough and painstaking examination, that their varied complaints cannot possibly be explained satisfactorily on the basis of local pathology, but that they are probably due to a central cause acting through the nervous system, which, for want of a better name, might be designated "lack of nerve energy." Perfect frankness should be had in explaining to the patient that there is no pathology present to account for the symptoms; that the complaints are due to a lack of nerve energy supplied to the tissues; that the tissues cannot discharge their functions without this nerve energy; that it is just as necessary to proper function as the circulation of the blood; that it is now proposed to institute a line of treatment that will restore the proper amount and proper character of nerve energy; that restoration of function will result; that relief cannot come, however, without cooperation of the patient, in a new direction.

This explanation usually interests and seems to help the most fastidious and long suffering. The greatest difficulty is ex-

perienced at the very outset, however, in convincing the patient, in the face of previous opinions, that there is no local pathology present.

(2) Restoration of function in any organ or tissue is impossible in the absence of the proper food supply to that organ or tissue. Neurons and their multiple connections are no exception to this rule. An improvement in the food supply of these patients is always of prime importance, and no easy task, as the presence of nervous indigestion has been indelibly impressed upon them and they often consider themselves an authority on the subject of dietetics. Much help, however, may be derived from the constant suggestion that the trouble is entirely supra-diaphragmatic, and that the fear of food is unwarranted.

(3) Chronic constipation is usually associated with the intestinal indigestion, mucous colitis is common, much abdominal pain and tenderness not infrequent, contributing an auto-infection from this canal may not be an inconsiderable secondary etiological factor; hence laxatives are continually called for, and may form a part of the daily regime.

(4) Nothing is more important, impressive, and suggestive, than to have the doctor write out a program to occupy every hour of the patient's time, day and night, including amount, character and frequency of food, time, character and duration of baths, amount and time of isolated rest, hours in bed, amount of recreation and company, and an accurate instruction as to medical advice, if any. In this way vicious habits of life may incidentally be corrected without friction, and the importance of the treatment impressed. Some of these patients are at times able to accomplish quite a large amount of work if their energies at other times are properly conserved. At times

will be necessary at all will consist in temporary suspension of work, at other times change of occupation is the price of health and happiness.

(5) In the effort to secure sleep many fall victims to drug additions, an unfortunate complication always to be looked for, and a result to be carefully avoided. It will be difficult to avoid the occasional use of hypnotics; sleep, however, may be effectively secured by other and less dangerous means, to be mentioned later. Sleep procured by the regular use of narcotics is criminal.

(6) The use of the cold bath in the treatment of these neurotic patients is an indispensable therapeutic agent; commencing at first with a cold, morning sponge, followed by a brisk rub, to be supplanted later by the cold spinal douche and then the cold plunge, effect is observed in procuring sleep, improved digestion, restored vascular, nutritional and metabolic equilibrium that is at times astonishing.

(7) It becomes at once apparent, as already pointed out, that these patients are peculiarly susceptible to suggestion, otherwise the temporary improvement, under so many different lines of treatment, for different complaints, would not have been obtained. This temporary relief came from suggestion of relief directed to that individual complaint. Now, with local pathology out of the mind of the doctor, and gotten out of the mind of the patient, and the central idea of the trouble substituted therefor in the minds of both, is it not possible to substitute conscious and intentional wholesale for the unconscious and unintentional retail method of conveying the suggestion?

To carry out this idea several prerequisites must obtain. The doctor himself must be of a tactful and magnetic disposition and possessed of a patience that would excite the envy of Job. The hearty co-

operation of the members of the family is of importance; all of them are to be instructed to occasionally remark upon the patient's improved condition. Unkind criticism or reflection upon former medical attendants is fatal to the effort. Patients must be prohibited from discussing their complaints with anybody but the doctor.

Electricity and vibration, aside from any inherent therapeutic merit, are perhaps the best vehicles in which to administer the suggestion. Either or both may be used alternately. A certain hour, on a certain day, must be selected, and the engagement scrupulously observed. Negligence, indifference or inattention is at once followed by loss of co-operation. The patient's clothing should be removed and the surface of the body carefully gone over either with the electrode or the vibrator, and as tender points are reached, they should be gone over again carefully, with the constant, confident, yet quiet assurance that the treatment will remove the tender spots. The greater the elaborateness, the more obscure the complexity of detail, the greater the amount of surface covered, the more forceful and lasting the suggestion. During the treatment and immediately thereafter, the patient should be assured that it is always followed by more quiet and refreshing sleep, that digestion and appetite are constantly invigorated, and the tender spots relieved, and that general comfort will follow until the next visit. Upon the next and all succeeding visits, before the patient has had an opportunity to begin the usual recital of discomforts, the doctor should be careful to casually remark upon the improved appearance and better color, and at once ask tactfully and carefully after each and all specific complaints, with the inquiry if they are not better. Optimistic, suggestive inquiry, with confident re-

assurance, should characterize each and every interview.

I beg you to construe this paper as a plea for a broader and deeper conception of the complaints of this class of patients, a conception which will carry the diagnostician beyond the consideration of local expression as an evidence of local pathology, into the realm of mental control, where the seat of injury is often found in the loosening of that tie which should normally bind the higher subliminal self to functional activities.

This class of patients is certainly entitled to every means of relief that can be afforded—dietetic, medical, surgical, and hygienic; but shall we stop there, abandoning that wide field of psychotherapy, now holding such promise of development for the future?

All therapeutic measures belong to the medical profession, and failure on the part of the physician to add mental therapeutics to other treatment, is, in my opinion, largely responsible for the ever increasing numbers of devotees to those false religions whose tenets are neither scientific nor Christian, but who adroitly swell their ranks and promulgate their false doctrines by practice of this principle, so long well known, yet only recently being seriously put on a sane and healthy basis for the use of every practitioner.

DISCUSSION ON PAPER OF DR. CROCKETT.

DR. S. T. RUCKER, of Memphis, was asked to discuss the paper. He said:

I regret I did not hear all of Dr. Crockett's paper. I only heard that part referring to treatment. From the title of the paper I infer that he dealt mainly with the so-called nervous patients, with imaginative ailments. The symptoms of the "nervous unsick" should not be ignored, for often they are severely ill and suffer greatly. If the family physician does not do something for them, many will pass into the

hands of quacks, and some of them will get well, to the discredit of the regular profession. The physician whose custom is to make a careful and searching examination of his patients, the sick and "unsick" alike, will often succeed where the unsystematic and careless will fail.

The so-called nervous, imaginative ills are real diseases, as much as the demonstrable organic diseases are. The imaginative, or thought process, is the chief part of man; and it gets out of gear like the heart, liver and ovary.

These ailments are sometimes more severe and more difficult to treat than organic diseases.

I have under observation now a patient whose condition forcibly illustrates my contention. He was sent to me from a town near New Orleans. He is a man of unusual intelligence, and formally was a hard working business man. In fact, his trouble is due to long hours of concentrated effort and overwork.

He has had many skilled specialists to examine and pass upon his condition, all of whom said he was "sound, all right, or there was nothing the matter with him." He is apparently a fine specimen of manhood. He weighs 250 pounds, has a good circulation, and eats and sleeps well.

Yet he was brought to me on a stretcher. He has been more or less bedridden for seven years, and at times had to be fed with a spoon.

I pronounced his ailment psychasthenia. The trouble is psychic. He has a sense of grave invalidism and a fixed fear of "getting weak," or "toppling over and dying." This idea has been revolved in his mind until it has become an obsession, and it dominates his thoughts and keeps him down. Seven years of suffering and invalidism is proof enough for me that this patient is a sick man.

DR. G. G. BUFORD, Memphis:

Dr. Crockett's paper is a classic one, but as it deals with generalities it is very hard to discuss. It represents a large class of asthenics—people that are without any backbone or any will force, as you many say. If we will go back for a moment to the question of the dynamics of life, which originate in the cortex of the brain, we will find a solution often for this class of people. The energies of life are the result of cell action and cell inactivity, and of the quantity or quality of the blood supplying these cells. If there is difficulty, it is dependent upon the bichemism of the brain cell.

If it is due to a defective blood supply, then it may be ascribed to the arterial or venous supply of the cells of the brain, and if we take into consideration these questions we will finally reach a solution of this class of patients. The cells must be supplied both the quantity and quality of blood. While the quantity may be sufficient, the quality is below par on account of the toxins generated in the economy. If we find the origin of the toxins to be in the alimentary canal, whether it is a want of elimination or of alimentary activity, or whether it is the kidneys that are at fault, we will find a solution for this class of patients, and when we get at them in that way we will get good results from treatment. This is a class of patients I love to treat. Give me some of those patients in whom there is no organic lesion, but only a functional condition to deal with, and where the dynamics of the individual are out of adjustment, and I always get good results if I can find the cause of the adynamic state. If we find out what it is that is defective, we find that the blood supply to the brain is not as it should be; that nutrition is impaired, and that the condition of the alimentary canal is oftener the cause of these troubles than most anything else. Then if we pay attention to the diet and elimination, we will often get good results by hygiene, good food, pure water, and fresh air.

DR. MCGANNON, Nashville:

It has been a source of great pleasure to me to have listened to this paper dealing with these neurotics. Dr. Crockett in his paper dealt largely with those that are neurotic as the result of conditions coming about through environment. But we must recognize that there are pathologic conditions, and that these result from other things than environment. This pathologic condition may come from things within the body, either acquired or congenital, or things without the body, which are due to environment. That being true, we can readily see that a diagnosis of the actual cause producing this pathologic condition requires two things: a careful history taking, and a careful examination, and the man who is successful in treating these cases is he who can make a proper diagnosis and arrive at the cause that is producing the pathologic state. The doctor has properly called our attention to the fact that these individuals have had their eyes treated, their lungs treated, their livers treated, their appendices removed, their ovaries re-

moved, and rectums taken care of, to say nothing of corus. They have had proper care at the hands of surgeons, without producing a cure. In the first place, a correct diagnosis in these cases is usually not made. Sufficient care has not been exercised in getting the history and in making the examination to arrive at the correct cause of the pathologic condition from which the patient is suffering. If the examination is made thoroughly—and the examination is not complete until you have a complete history from the earliest childhood, so that acquired conditions or congenital conditions may be dealt with—you can generally arrive at a correct diagnosis, but every single organ in the body should be gone over from head to foot. If a painstaking examination, such as I am now trying to outline, is made, the well-equipped, well-educated man is not likely to make the mistake of leaving this neurotic individual to the cares of the household, etc. If the pathologic condition be due to these things, he is not likely to make the mistake of believing it is brought about by some condition in the stomach or in any other organ of the body that is not diseased.

Treatment must necessarily consist in, first, removing the cause, if that cause can be ascertained. If it is a congenital difficulty or defect, we may not be able to remove it. If it be a cause surrounding the patient, we can do something towards removing the cause; but if there be a pathologic condition within the body that has been acquired, it must be removed before you can possibly hope to do away with the neurotic condition. Unless we remove the pathologic condition, whether in the appendix, the liver, or in any other part of the body, we cannot possibly hope to bring about a cure. If the individual is suffering from eye strain and you allow him to go on with that eye strain, how can you hope to get rid of the neurotic condition? This thing and that thing are done to patients without relief, and the question goes back to the diagnosis. If the diagnosis is not correct, it is impossible to remove the cause, and if we do not remove the cause, we cannot get rid of the effect. While removing the original cause the effects that have arisen as the result of the existence of that cause for a long period of time, will not be gotten rid of readily. If the individual has been suffering from some pathologic condition surgical in character, and if that condition be removed, and the patient turned back to the original form of life without making any effort to get rid of the effect

produced by the cause, the patient will go from one doctor to another, and perhaps finally end in the hands of a Christian Scientist, or will be put in such a condition that the original cause may be done away with, and then the patient is well.

DR. CROCKETT (closing):

There is very little for me to say in closing the discussion on my paper. The remarks of Dr. McGannon would have been very appropriate if I had written my paper on another subject, but I specifically stated that my discussion was on a subject that dealt with incapables without local pathology. These patients are certainly entitled to the correction of local pathology, and no relief will be afforded until this local pathology is corrected, if the local lesion is the cause. Dr. McGannon is quite right about that matter. I was speaking of that large class of patients in whom it was impossible for the local pathology to explain it. Let me give you an illustration. Recently I had under my care a woman, 34 years of age, who went to bed and could not get up. She did not give up for four months. Let us go back and inquire about the history. Her mother was an invalid when she was 14 years of age. She took charge of her mother's house, and did a large part of the work. At the age of 18 she went to a boarding school, where she was confidential secretary. She worked all summer and winter long. She continued to do this work for four years, at which time she married an industrious man, who was making money, and she was anxious to help him. For four years she did sewing for this large school, sitting up until eleven o'clock at night. She became pregnant, and she had two children in rapid succession, and both of these children were of the kind that never sleep. When the second child was about two months old, she got up, apparently well. She sent for me, complaining of pain in the abdomen. She said she got so tired in the afternoon that she had to go to bed. She commenced to go to bed early in the afternoon, until finally she went to bed and remained there all day long. She was a handsome woman. She got so that she could not walk. The mentioning of domestic duties excited her so that she could not sleep at night. I had consultation with a view to try and find out what was the matter. We watched this woman for several weeks before we determined what her real condition was. This abdominal pain was located at different points in the ab-

domen. Finally, it became located in the back, and she had terrific headaches. We examined her repeatedly and could not find any local pathology. She commenced to have a mucous diarrhœa, and we thought the cause was clear. After a period of a year she had gotten so that she was able to discharge her domestic duties and responsibilities very well, but she took four hours rest in the middle of the day. With very careful physical examinations, repeated over a period of a year, we were never able to locate any pathology. She is now very much better, and in the meantime she has had another baby. After the delivery of that child she stayed in bed and could not get up for six weeks. She could not get up, she said, and she did not. She has improved and is doing very well now.

The remarks of Dr. McGannon glve me an opportunity to mention a matter that I do not know whether he has thought about or not, and that is, we find many of these people on

the border line. They have some pathology present, slight in character, and it is difficult to say whether it is the cause of their trouble or not. It is difficult to determine the cause of their trouble. This slight pathology may be all we can find, and whether it is wise to treat these cases surgically or not, or whether it is wise to correct it locally or not, believing it to be the cause of the trouble, is a difficult matter to determine. I have three patients under my care now on two of whom hysterectomy was done at my suggestion. I thought the uterus was the cause of the trouble. This was a year and a half ago, and these women are just the same as they were before they were operated on. They are in the same neurotic condition. It is true, in one case, we have not been able to institute a satisfactory environment. But in the other cases we had everything we wanted in the way of environment, but they are both incapable still.

Journal Tennessee State Medical Association

Published Monthly by the Tennessee State Medical Association.

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THE NASHVILLE MEETING OF THE SOUTHERN MEDICAL ASSOCIATION.

WE wish to impress upon the members of the Tennessee State Medical Association, who are also members of the Southern Medical Association, that the next meeting of the Southern Medical Association will be held in Nashville on November 8, 9 and 10. Arrangements are being made by the members of the profession of this State to extend a most cordial greeting to every member of the Southern Association, and it is especially desired that Tennessee should be represented by a large and representative delegation from every section of the State. This will also offer an exceptional opportunity for those who are members of the Tennessee Association, but not of the Southern, to become members of the latter, and it is urgently requested that every member of the Tennessee Association who can, will come and join the Southern, as this Association offers to the members of the profession an extraordinary opportunity to meet with the profession from Alabama, Georgia, Florida, Mississippi and Louisiana, and by this meeting and contact to aid in the

dissemination of the best in medicine, surgery and special fields which this particular Association represents. From present indications, the attendance will be large; the interest great; the program full; the papers most important, and the discussions lively. What more could any man wish than to be an integral part of an Association which holds out so much to its members?

Headquarters for the Association will be at the Hermitage Hotel. We expect you to be present and bring your friends. This will insure a large attendance.

DR. JOHN B. MURPHY, of Chicago, will be the guest of the Association on Tuesday evening, November 8th, at which time he will deliver a special address. As is well known, Dr. Murphy is the President-elect of the A. M. A., is a surgeon of international reputation and one which this Association will take special pleasure in hearing. It will be a rare opportunity to hear a man of wide experience discuss most important problems of the day.

HOTEL RATES FOR SOUTHERN MEDICAL ASSOCIATION.

HERMITAGE HOTEL.—Room, single bed, without bath, \$2.00. Room, two beds, without or with bath, \$4.00 to \$5.00, which means \$2.00 to \$2.50 for each occupant. Room, with bath, single occupant, \$3.50 up.

MAXWELL HOUSE.—Room, without bath, single bed, \$1.00 to \$2.50. Room, without bath, two occupants, \$3.50. Room, with bath, single occupant, \$2.00 to \$3.50. Room, with bath, two occupants, \$3.50 to \$5.00. Club breakfast, 25 cents to \$1.00. Luncheon, 50 cents.

\$2.00 to \$2.50. Room, with bath, two occupants, \$3.00 to \$3.50.

COMMERCIAL HOTEL.—Room and meals, \$1.00 to \$1.25.

All the hotels except the Duncan and the Commercial are run on the European plan. Restaurants and numerous boarding houses, serve meals at 25 cents up. It would be well to engage rooms before coming.

The committee has arranged for a general session on Tuesday evening, November 8th; for a general reception at the Hermitage Hotel on Wednesday evening, and for a visit to the Hermitage, Andrew Jackson's home, on Thursday afternoon. For this visit the train will leave Union Station at 2 P.M., returning in plenty of time for all trains going out after 7 o'clock that night. The Nashville button will admit members free of any charge. We expect a great crowd from our six States. The State election will keep many Tennesseans away from the first day's meeting, but after voting, these will come in great numbers to attend the meetings and entertainments of the last two days.

The Association will be called to order at 10 A.M., November 8th, in the Auditorium of the Y. W. C. A., on Seventh Avenue, North. The general meeting on that evening will be in the same hall at 7.30 P.M. All the sessions of the Section of Medicine will be held in this hall, morning and afternoon, daily. The Section of Surgery will hold its sessions in the Assembly Hall of the Hermitage Hotel. The Section of Ophthalmology will meet in a commodious hall in the Hermitage Hotel.

The exhibits will be in the gymnasium of the Y. W. C. A. building.

All inquiries should be addressed to

G. C. SAVAGE, *Chairman*.



DUNCAN HOTEL.

THE DUNCAN HOTEL.—Room and meals, for one person, \$3.00 to \$5.00. Room and meals, for two persons, \$3.00 each.

HOTEL SAVOY.—Room, without bath, one occupant, \$1.50. Room, without bath, two occupants, \$2.50. Room, with bath, one occupant,

SOUTHERN MEDICAL ASSOCIATION.

FOLLOWING is the preliminary program of the Southern Medical Association, to be held in Nashville, Tenn., November 8, 9 and 10, 1910:

SECTION ON MEDICINE.

Chairman's address.

"The Study of the Human and Bovine Bacilli, Isolated from Eleven Cases of Cervical Adenitis." Wm. Litterer, Nashville, Tenn.

"Bacilli Carriers: A Case Showing the Bacilli Typhosus in the Sputum." W. C. Dixon, Nashville, Tenn.

"The Gamete Carriers: Their Role in the Etiology of Malaria." Graham E. Henson, Crescent City, Fla.

"A Unique Case of Elephantiasis, Caused by the Streptococcus Erysipelatous, Associated with the Bacillus Prodigiousus." W. M. McCabe, Nashville, Tenn.

"Some Thoughts on the Relation of Foods to Temperature." George W. Brown, Atlanta, Ga.

"Further Studies on the Action of Purgatives: The Saline Cathartics." George E. Pettey, Memphis, Tenn.

(Discussion opened by John A. Witherspoon, Nashville, Tenn.)

"The Treatment of Gastric and Duodenal Ulcers and Hyperchlorhydria." E. Bates Block, Atlanta, Ga.

"Gastric Neurosis." George M. Niles, Atlanta, Ga.

"The Digestive Symptoms of Pellagra." Seale Harris, Mobile, Ala.

"Infectious Endocarditis." J. U. W. Peters, Birmingham, Ala.

"Dermatitis Factitia, with Report of Cases." J. M. King, Nashville, Tenn.

"The Use of Veratrum Viride in the Treatment of Pneumonia." C. W. Strickler, Atlanta, Ga.

"The Quick Microscopic Typhoid Agglutination Test; Its Application and Advantages." C. C. Bass, New Orleans, La.

"The Plea of Insanity and Some Pointed Tests." J. C. King, Atlanta, Ga.

"The Diagnosis of Brain Tumors." E. M. Hummel, New Orleans, La.

"Auto-intoxication in Mental and Nervous Affections." Wesley Taylor, Atlanta, Ga.

"The Indications and Contra-Indications for Operating on Nervous Women." S. T. Rucker, Memphis, Tenn.

"The Home Treatment of Tuberculosis, with Comments on the Use of Tuberculin." C. M. Nice, Birmingham, Ala.

"Acidosis." Thomas D. Parks, Birmingham, Ala.

"Complications and Sequellæ of Measles, Based on the Study of 470 Cases." Thomas Weaver, Nashville, Tenn.

"The Treatment of Acute Catarrhal Colitis in Children." Charles E. Boynton, Atlanta, Ga.

ANTERIOR POLIOMYELITIS.

"Etiology." J. Ross Snyder, Birmingham, Ala.

"Pathology." Owen H. Wilson, Nashville, Tenn.

"Symptoms and Diagnosis." Charles M. Nice, Birmingham, Ala.

"Treatment." Eugene Rosamond, Memphis, Tenn.

(Discussion opened by E. Laurence Scott, Birmingham, Ala.)

CARDIO-RENAL DISEASES.

"Pathology." Charles Whelan, Birmingham, Ala.

"Therapy." J. B. Guthrie, New Orleans, La.

"Vascular Features." W. H. Witt, Nashville, Tenn.

"Pulse and Blood Pressure." J. D. Heacock, Birmingham, Ala.

"Cerebro Conditions." B. L. Wyman, Birmingham, Ala.

"Nauheim Baths and Physical Therapy." J. S. McLester, Birmingham, Ala.

(Discussion opened by J. T. Halsey, New Orleans, La.)

Title to be announced. J. H. Honan, Bad-Nauheim, Germany.

Title to be announced. James B. McElroy, Memphis, Tenn.

Title to be announced. Bryce W. Fontaine, Memphis, Tenn.

SECTION ON OPHTHALMOLOGY.

"The Complications of Chronic Suppuration of the Middle Ear." Frank Cunningham, Macon, Ga.

"Trachoma." Louis Edelman, Mobile, Ala.

"The Surgical Treatment of Mastoid Diseases." C. M. Capps, Knoxville, Tenn.

"Malarial Manifestations in the Eye." M. H. Bell, Vicksburg, Miss.

"Edema of the Glottis." Archibald C. Lewis, Memphis, Tenn.

"The Artificial Leech in Acute Mastoiditis." U. S. Bird, Tampa, Fla.

"Inferior Turbinectomy and Method of Packing after Operation." G. E. Vaughan, Clarksville, Tenn.

"Bronchoscopy Demonstration." Richmond McKinney, Memphis, Tenn.

"Rule of Thumb in Refraction." A. W. Stirling, Atlanta, Ga.

"Some of Refractions Vagaries, Especially after Senility Begins." A. G. Hobbs, Atlanta, Ga.

"A Paper." F. P. Calhoun, Atlanta, Ga.

"The Muscle Indicator and Its Capabilities." G. C. Savage, Nashville, Tenn.

"Blindness as a Result of Malaria, with a Report of Two Cases." W. L. Howard, Greenville, Miss.

"Chronic Laryngeal Stenosis-Treatment by Prolonged Intubation." Homer Dupuy, New Orleans, La.

"Some Syphilitic Manifestations in Diseases of the Eye, Nose and Throat." Hugh M. Lokey, Atlanta, Ga.

- "Episcleritis." O. Dulaney, Dyersburg, Tenn.
 "The Heath Mastoid Operation." M. M. Cul-
 lom, Nashville, Tenn.
 "Surgery of the Tonsils." Hilliard Wood,
 Nashville, Tenn.

SECTION ON SURGERY.

- "Gunshot Wounds of the Abdomen." F. G.
 Dubose, Selma, Ala.
 "Double Perforation in Typhoid Fever."
 H. M. Folkes, Biloxi, Miss.
 "Report of Two Cases: (1) Chylous Cyst of
 Mesentery with Appendicitis; (2) Abscess of
 Abdomen with Fecal Fistula." R. R. Kime,
 Atlanta, Ga.
 "Why Ligate the Sac in Hernia." H. A.
 Elks, Birmingham, Ala.
 "Treatment of Railroad Accidents." H. T.
 Inge, Mobile, Ala.
 "Flat-Foot and Its Treatment." Theodore
 Toepel, Atlanta, Ga.
 "An Operative Plan for the Correction of
 Club-Foot." Michael Hoke, Atlanta, Ga.
 "Coxa Vara: The Report of a Case." Willis
 Campbell, Memphis, Tenn.
 "Ulcers." W. F. Westmoreland, Atlanta, Ga.
 "The Treatment of Fractures." T. J. Charl-
 ton, Savannah, Ga.
 "The Pathology and Treatment of Ununited
 Fractures." J. N. Baker, Montgomery, Ala.
 "Surgical Aspect of Fractured Patella: A
 New Incision." M. O. Shivers, Greenville,
 Miss.
 "The Operative Treatment of Compound
 Fractures of the Long Bones." J. L. Crook,
 Jackson, Tenn.
 "Appendicostomy." O. S. McCown, Memphis,
 Tenn.
 "Appendicostomy and End Caecostomy as an
 Aid to Treatment in Pellagra; (2) A Few Ob-
 servations Made in Six Cases: Proctoscopic and
 Microscopic Findings; (3) Results and Con-
 clusions." Jno. L. Jelks, Memphis, Tenn.
 "Observations of the Results of Four Cases of
 Thyroidectomy for the Relief of Dementia
 Praecox." Ralph N. Green, Chattanooga, Fla.
- "Goiter With and Without Hyper-thyroidism."
 W. D. Haggard, Nashville, Tenn.
 "The Surgical Aspect of Gastric and Duodenal
 Ulcer." R. A. Barr, Nashville, Tenn.
 "Gastro-Enterostomy for Benign Conditions
 Examined After Two Years." H. Berlin, Chat-
 tanooga, Tenn.
 "Some Observations on the Surgical Treatment
 of Hepatic Cirrhosis." A. A. Herold, Shreveport,
 La.
 "My Results with Gonococcic Vaccine." G. R.
 Livermore, Memphis, Tenn.
 "Report of Five Hundred Cases of Gonorrheal
 Infection Treated with Gonococcic Vaccine."
 C. W. Shropshire, Birmingham, Ala.
 "Safeguarding Society from the Unfit." A. B.
 Cooke, Nashville, Tenn.
 "Resections of the Round Ligaments for Retro-
 Displacement of the Uterus." E. C. Davis,
 Atlanta, Ga.
 "Purgatives with Pain in the Belly." C. N.
 Cowden, Nashville, Tenn.
 "Surgery Outside of the Hospital, with Re-
 port of Interesting Cases." J. W. Alsobrook,
 Plant City, Fla.
 "Surgical Dressings." L. Sexton, New Or-
 leans, La.
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 phis, Tenn.

CHOLERA.

WE have seen and heard much, through the daily papers for some months past, of the cholera epidemic in parts of Russia, which has also spread to certain parts of Europe, and that this present outbreak has been more pronounced in parts of Europe this season than for many years. The time was, when the announcement of a cholera epidemic abroad, which had reached the ports of Europe, with which this country was in constant commercial intercourse, would have caused even in this immediate section the gravest apprehension, not only on the part of the health authorities, but also of the general public. But while we have been confronted with the possibilities of the introduction of cholera into this country for some time past, yet the profession and public have given no indications of such a panicky feeling as that which pervaded the country during the cholera outbreak of Europe of 1892. The general feeling at that time was one of grave apprehension, and this being impressed upon the authorities at our greatest port of entry—namely, New York, the most rigid quarantine regulations were instituted and vigorously maintained. The impression went abroad, whether correct or not, that the maintenance of that quarantine bordered upon practices which were regarded by some as savage, barbaric and disgraceful. Now, while in all probability cholera

patients have been arriving on our shores for some time past, the measures used for the prevention of its propagation in this country are such as to give us a sense of marked security, which grows out of our confidence in the better methods of diagnosis and exclusion of those who might be carriers of the disease. Some of us can recall the disastrous epidemic of cholera of 1873, when Nashville and other cities of the South suffered from the terrific scourge. Since that time the public has always been easily alarmed by the talk of cholera, but in this day and time the public health service, both State and national, has wrought a marked change in public sentiment and lessened to a wonderful extent public apprehension and commercial depression. This is but an evidence of what can be done when the people are thoroughly aroused and come to the help of the public health authorities, as well as the profession at large, by passing such legislation as is beneficial to every section of the entire country. This one example of the benefits to be derived from proper legislation should go far toward aiding every State in the passage of proper medical practice acts and general health measures. It would be well for the profession in Tennessee to know these points and be prepared to support such legislation as may come before our Legislature at its coming session.

INFANTILE SPINAL PARALYSIS—OR ACUTE ANTERIOR POLIO-MYELITIS.

SPORADIC cases of poliomyelitis have from time to time come under the observation of many general practitioners in this section, but so far we have not been confronted with it in epidemic form, as has been the case in other sections of the

country, yet we should be on our guard, in order to recognize the first symptoms and meet the indications.

While the epidemics which have occurred have, in many instances, proven so disastrous to the communities in which

they have appeared, they have also proven such a great stimulus to those interested in research work that we are today beginning to look with some degree of hope to the near future for a more reliable method of treatment of this dread disease.

Through the efforts of Flexner and his co-workers of the Rockefeller Institute we have learned that the active agent in producing the condition is an organism. It has been discovered that this organism not only invades the cerebro-spinal fluid, but, in fact, can be found in many of the glandular structures, depending somewhat upon the stage of infection. The principal avenue of discharge from the patient seems to be by the secretion from the nose, which is evidently increased during the attack, and the presumption that the route of infection is largely via the nasal mucous membrane.

The force of the disease is expended chiefly upon the cord and brain, the gray matter of both being involved, "from cortex of brain to lumbar ganglia" (Sachs); hence in some instances it may be correctly called "an infectious meningo-encephalomyelitis" (Sachs).

The importance of early diagnosis is quite apparent, as from a single case others may quickly develop under certain conditions; hence isolation of the case with all proper precautions as to family and community should be insisted upon by the physician in charge, while disinfection should be carried out especially as

pertains to all secretions and discharges from the nose and mouth, as well as articles and clothing used in the conduct of the case. The same care should apply in these cases as we now regard as necessary in diphtheria and scarlet fever. Differential diagnosis from epidemic meningitis can be made when there is absence of the diplococcus intracellularis in a series of lumbar punctures (Flexner).

The immediate treatment of these cases will depend upon the early symptoms, for these vary according to observations of those who have had experience in States where epidemics have prevailed. The condition being a general infection, and not a purely local one, treatment must be directed toward preventing failure of elimination by watching all the natural routes—skin, kidneys and bowels—meeting the indications, while at the same time resort can be had to lumbar puncture.

Unfortunately, the after effects are quite serious, difficult to prevent, as well as to overcome. The most frequent form of subsequent defect is paralysis, sometimes limited, sometimes extensive, which calls for as much skill in treatment as the acute stage. The treatment of a paralyzed muscle, or group of muscles, will tax the skill and patience of the physician, while he runs the gamut with massage, movements, braces, splints, electricity and surgery.

Fortunately, some patients recover without paralysis; some, but slightly paralyzed, recover in time.

BOOK REVIEWS.

The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D.

VOLUME III. EYE, EAR, NOSE AND THROAT. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D.; Gustavus P. Head, M.D. Price, \$1.50.

To Dr. Casey A. Wood is assigned the review of the advances and suggestions of treatment and operations upon the eye. This has been handled in the characteristic manner of this eminent author and specialist.

Ocular Hygiene.—Special reference to the illumination and estimation of injurious effects

of the short waved-light on the eye and the protection of the eye against the ultra-violet rays of artificial light have been considered at length. The bacteriology of the eye, with special reference to methods, examination and detection of diseases of microbic origin and methods of sterilizing instruments is interestingly presented.

Diseases of the conjunctiva, sclera and cornea, as well as of the lens, with methods of treatment, have all be reviewed.

Extraction of cataract in the unruptured capsule, with various methods, is presented according to the claims of each operator.

Disease of the deeper structure and the eye

muscles have received due consideration. Special emphasis has been laid upon the eye in general diseases. An interesting chapter is given upon ocular tumors. New instruments and appliances receive attention, with illustrations setting forth the advantages to be derived from the use of each.

Under the head of "Ophthalmic Therapeutics" are discussed various new remedies or special application of others under given conditions.

Literature concerning the ear has been reviewed by Dr. Andrews, who, after a short review of the physiology of the organ, has given us the latest on diseases of the external ear, middle ear and mastoiditis, under which head the etiology, diagnosis and treatment have been thoroughly reviewed.

Special attention has been devoted to brain complication by methods for detection and treatment.

The Nose and Throat.—This subject, in the hands of Dr. Head, has been reviewed with special reference to recent suggestions, both therapeutic and operative. The septum, especially deviations, with their etiology and methods of correction; the turbinates, accessory cavities, the thrombosis of the cavernous sinus and nasal tumors have each in turn been presented in accordance with the most recent literature upon these subjects. The pharynx, the mouth, the tonsils, the larynx, with the various procedures relating to these parts, as well as complications which may arise during or following operations, have been reviewed.

Sudden death, due to enlarged thymus, with a view of history, has been dwelt upon at some length.

Under the head of "Therapy" suggestions are made concerning some of the latest remedies, with detailed information as to their uses.

VOLUME IV. GYNECOLOGY. Edited by E. C. Dudley, A.M., M.D., and C. von Bachellé, M.S., M.D. Price, \$1.25.

PART I. This volume begins with a review of General Principles, under which head are discussed the methods for general Gynecologic

examinations, with local anesthesia, and when necessary, under general anesthesia. Every phase of Gynecologic procedure, with best methods and means, is discussed, from massage medical treatment to this branch of the profession. Cystoscope in gynecology; new instruments for examination; new method of entering bladder through Vesico-Vaginal Septum; Arrest of Hemorrhage; Drainage in Pelvic Operations and other features of importance and interest to the gynecologist, are elaborated.

PART II. INFECTIONS AND ALLIED DISORDERS.—Under this head are discussed Leucoplakia, Carcinoma, Actions of various Bacilli, Cystitis, Tuberculosis and the various infectious conditions of the tract and deeper structures, including Chronic Posterior Parametritis, with Appendicitis and Diseases of Adnexa. Consideration is also given to the part played by the typhoid germ in Salpingitis with methods of treatment, including operations and treatment with Radium.

PART III. MALFORMATIONS AND TUMORS.—Here we have discussed Malformations; Tumors; Myoma; Fibromyomata; Carcinoma; and various Ovarian Tumors.

PART IV. TRAUMATISMS.—Under the discussions of the results of traumatism, special attention is given to perforating wounds and ruptures of the uterus. The various fistulous conditions with methods for repairing.

PART V. DISPLACEMENTS.—The causes, pathology and symptoms are discussed with special reference to those conditions arising in Nullipare and Virgins as compared with those which occur after child-birth. New methods of procedure are detailed, also some of the complications which arise after operation for fixation of the Uterus. Operations for Rectocele and various types of Hernia are also discussed.

PART VI. DISORDERS OF MENSTRUATION.—The influence of Blood-pressure in menstruation is considered in a most interesting and instructive way. The whole subject of menstruation, from its beginning to its termination with the influence of various causes, along with the complications which frequently arise during this period, together with the latest and most approved methods of treatment are fully discussed.

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All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

VOL. III.

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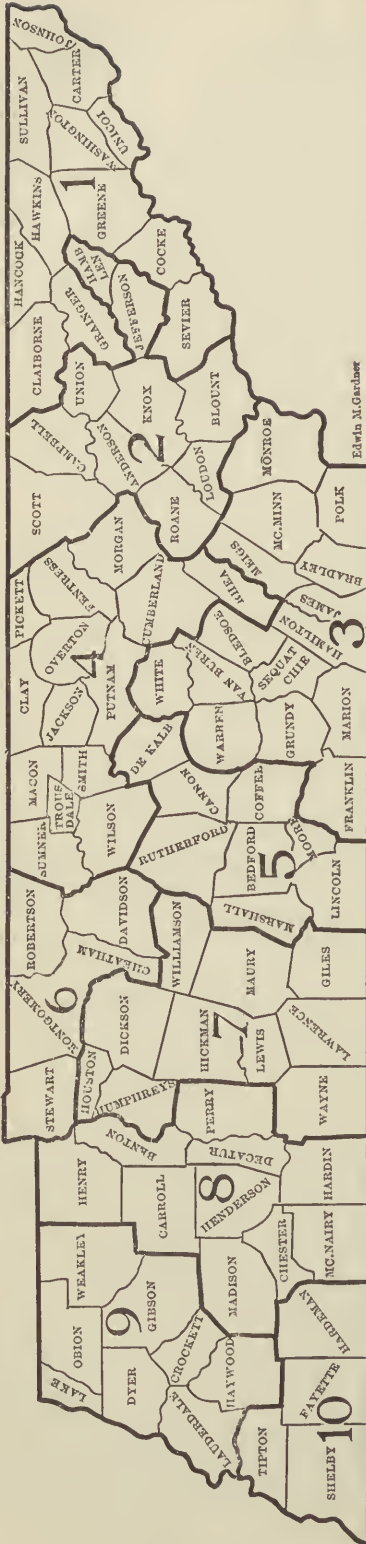
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

JOURNAL

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VOL. III.

NASHVILLE, TENN., NOVEMBER, 1910

No. 7

A LEAF FROM THE CATECHISM OF PEDIATRICS.

BY HERMAN HAWKINS, M.D., JACKSON, TENN.

"No man can learn what he has not preparation for learning, however near to his eyes is the object."—*Emerson*.

THE question mark is the universal symbol of the human race. The student of medicine who substitutes the period for it has turned his back on accomplishment and begun his journey towards the graveyard of endeavor. We are all members of the general quiz class, but when the special subject of children is announced, most of us are disposed to shirk the ordeal.

None will question the statement that a man in general practice must treat the children of the families which employ him; and it is but reasonable to expect him to exercise at least a fair degree of skill in caring for a class of patients which forms an important part of his clientele. Observation teaches, however, that many competent physicians fail to measure up to their average ability in the diagnosis and treatment of diseases of children. We may well ask why this is true. The answer to this question states my argument; the rest of the paper presenting evidence to support it in the form of examples suggested by the demands of daily practice. Out of the great mass from which to choose, I have selected a few of those which especially point to what I conceive to be a scientific method of diagnosis and treat-

ment. When we look for a cause for the attitude of the profession at large to this subject, we are forced to conclude it is to be found in an inadequate educational preparation.

A course of lectures on Diseases of Children is a part of the curriculum of every medical school, but the student is taught but very little about the normal infant. If it could be truly said "that the baby is a man in miniature," from the standpoint of the anatomist and physiologist, this method need not be questioned; but the fact is, the infant and man are two very different animals of the same species. Out of these existing differences are developed many distinctions in the symptomatology of pathological lesions necessitating a differential interpretation of physical signs. An understanding of these facts must form the foundation for real progress in the treatment of children; without it no clear conception can obtain, for the rule that, a knowledge of the normal is necessary to an understanding of the abnormal, holds good with children as with adults. This being true, I submit the proposition that the intelligent diagnosis and treatment of diseases of children must be based primarily upon a knowledge of the anatomy and physiology of the normal child, and in so far as students lack this essential knowledge at graduation, just so

far is the present method of teaching open to criticism. While at school the student finds Pediatrics the side show to the big tent, but when he begins practice, instead of being the spectacular performer in the large arena he so fondly expects to be, about the first thing he runs up against is a sick baby, and for the life of him he can't tell from what disease it is suffering, nor does he know how to go about finding out.

He may study first principles and prepare himself, but the probabilities are, he will become discouraged, form a distaste for this kind of practice, and never develop any real ability in pediatrics. The *Journal of the A. M. A.* for February 26, 1910, published a paper by Dr. Emmet Holt, on "Infant Mortality," from which I quote: "What results could be looked for when the subject was so lightly considered by even so representative a body as the Committee on Curriculum of the A. M. A. in 1905, which in an ideal medical course considered ninety hours sufficient for the study of the diseases of children. From most colleges a man may graduate without passing even an examination in this subject. It is encouraging to note that the same committee in 1909 allotted twice as many hours to the diseases of children as were given four years before."

The whole matter is very elaborately presented in the report of the Committee on "Teaching of Pediatrics," which was made after a very thorough investigation, and consultation with teachers representing about forty schools. Let me quote two sections of this report:

"B. Pediatrics should be compulsory—that is, required for graduation.

"F. The course should include the anatomy, physiology, and all the ordinary abnormal conditions of infancy and childhood, both medical and surgical. . . . It is quite as essential that the anatomy and physiology of the developing period should be presented as of any other."

When the principal features of this report are adopted by our medical schools as they eventually must be, pediatrics will assume the position in medical education its importance demands. To further emphasize the necessity of the educational method I am advocating, let us consider a few questions and answers which indicate its usefulness at the bedside, and the broadened conception of pathological conditions such training provides. We are told that the normal respiratory murmur of an infant's lungs has more of the bronchial sound than the adults. Why?

The bronchial tree is relatively larger in the infant and the air cells smaller proportionately. Lung structure is auscultated in both, but the anatomical arrangement being different, it follows that the sound is correspondingly changed. Again, why are we advised that the more satisfactory examination of the lungs is made from the back?

The infantile lungs not only differ in structural proportion, but are located in a relatively different position, being situated more posteriorly and occupying proportionately less space in the thoracic cavity. Why less space?

Because the diaphragm rises higher, and the thymus gland, which has virtually disappeared in the adult, takes up room in the thorax, separates the lungs more in front and helps to crowd them backward.

How does this difference in anatomical proportion of lung structure influence the type and tendency of pulmonary diseases?

The disproportion between the bronchial and vesicular areas not only requires a different interpretation of physical signs, but brings about a preponderance of the bronchial type of disease. Hence, lobar pneumonia, for example, is rare before the age of three years, while broncho-pneumonia is the scourge of this period.

Not only so, but the function of the lungs is interfered with as seriously by

congestion as by consolidation, and congestion is invited by the partial development of the vesicular area.

What is the normal percussion note of the infant's chest as compared to the adult? Hyper-resonance; or an exaggerated resonance. Why?

The anatomical arrangement of lung structure already described, the thinness of chest walls and their elasticity. Thin because the overlying muscles are poorly developed; elastic or springy because the frame work is composed largely of cartilage in front, instead of bone. It is evident from this description that a clear percussion note is only obtained by a light stroke, otherwise the extensive vibratory motion will cover too much territory, confusing results.

What striking peculiarities of development are noticed in the first year of life?

Assuming one hundred and fifty pounds as a standard weight at twenty-five years of age, we find the infant of one year weighs about one-seventh of this, or twenty-one pounds; but the cranial cavity attains to nearly two-thirds of the full adult capacity in this period. This statement is not meant to include mental development, which I am not now discussing.

What effect does this have on diseases of infantile life? Such rapid growth argues instability of nervous action. We note an excess of the nervous element in every form of disease often apparent out of all proportion to the cause.

Spasms are easily induced by indigestion, fever or slight irritation, while spasmodic seizures characterize the onset of diseases which begin with a chill in the adult patient. In a limited sense I may say eclamptic symptoms in the infant correspond to the delirium of adult life.

Without devoting more time to anatomy alone, we may well ask, What of the comparative physiology of the child?

The physiological differences are per-

haps more noticeable than the anatomical, certainly of more importance to the practitioner; for this field includes the great problems of nutrition and metabolic processes. However, they are best studied together, each serving to explain the other. For example, the absence of visible teeth indicates the necessity for a liquid diet, and the partial development of the glands of the buccal cavity explains the deficient power of their combined secretions to digest starch except in slight degree, hence we readily conclude the diet must not only be liquid but practically free from unchanged starch. Moreover, the small size and comparatively vertical position of the stomach suggests a reason for the administration of food in small quantities at frequent intervals, and in part explains the statement that "the greater part of the digestive process takes place in the intestines through the action of the bile and pancreatic juice." A knowledge of the greater proportionate length of the sigmoid and its relatively larger curvatures enables one to understand why we meet so many cases of obstinate constipation in infants and young children. The relative size of the infant's heart to the capacity of the blood vessels, and the poorly developed muscular coat of the arteries harmonize with the normally low blood pressure; a fact which furnishes a key to many therapeutic peculiarities of childhood. While only one factor, it is an important guide to the choice of remedies, for in a general way it may be stated that remedies which lower blood pressure must be administered to infants with great care; conversely those which raise the blood pressure are well borne.

The rapidity of functional action and lack of equilibrium so eminently characteristic of infancy is better understood when the rapid and irregular development of the nervous system receives the full consideration it merits. When we say that

in the growth of the nervous system the inhibitory centers lag behind in development, we furnish in one sentence an explanation of a host of infantile phenomena both in health and disease which would be otherwise obscure. With this to guide, we readily interpret the changeable pulse, the irregular respiration, the easily disturbed balance, the power of reflex irritation, the excess of functional activity of all the organs on slight provocation, and learn to appreciate at their true value the relations of these and others to pathological processes. This comparative inquiry could be extended to the systematic interrogation of every organ and tissue, every secretion and function, and to the relocation of nearly every surgical landmark. It is not my purpose, however, to exhaust the subject, but merely to suggest the importance of this method of study, and its value in providing the student with a comprehensive knowledge of first principles to guide him in diagnosis and treatment.

DISCUSSION ON THE PAPER OF DR. HAWKINS.

DR. JOHN A. WITHERSPOON, Nashville, was asked to open the discussion. He said: I am very sorry I did not get to hear Dr. Hawkins' paper, as I was called out of the room for a moment. In reading the synopsis of his views on the program, I readily endorse them. I do not believe that in the medical schools of today enough attention is given to the variation in physical signs of diseases developing in childhood and those normally present in children from adults, and I believe it would be far better

if we could take into consideration the normal differentiation. In other words, there is no practitioner here of experience who does not know that an examination of the lungs of a child manifests many things different from that of the adult. Whatever may be their causes, they must be taken as a standard by which the variations from the normal must be considered. I feel that one of the great difficulties in this country has been the impossibility to teach us much in regard to the variations in physical signs in childhood as compared with the adult, and Dr. Hawkins is to be congratulated on calling our attention to these variations and of bringing about a more thorough and careful study of the diseases of childhood or those which occur during childhood. I am sure there is nothing that will bring about in all of us more sympathetic response than the sickness of a little child. There is no class of diseases more easily diagnosed, if these patients are carefully watched, than the diseases of childhood. You take the adult, and he is either liable to overestimate or to underestimate the symptomatology. The child cannot do this, and if a man who is thorough in his work will take up the illnesses of childhood and study them carefully, there is no reason for not being able to form a correct conclusion. I know of no class of cases in which response is more rapid than in childhood, if their ailments are properly diagnosed. They have all that initial response; they are not curtailed so much by the lack of vitality. That is overcome largely by a response that is natural to their youth, and I believe we have all seen extreme illnesses in childhood that have responded to remedies and conditions long after we would not expect them in an adult. I believe our best results will be obtained in children in studying the variations from the adult and the diseases peculiar to them and the remedies to which they best respond.

OPHTHALMIA NEONATORUM, OR INFLAMMATION OF THE EYES OF THE NEWBORN.

BY J. L. MINOR, M.D., MEMPHIS, TENN.

SOME years ago I had two patients brought to me, about the same time. One, a man fifty years old, blind for two years from cataract, upon whom I operated and restored sight; the other, an infant ten days old, suffering from ophthalmia neonatorum, with eyes almost beyond hope, but persistent treatment cured the disease and preserved the sight. Compare these two cases. In one, the blind was made to see—a brilliant achievement, certainly; but this work belongs to the oculist, and at best, simply gives sight to the later years of a declining life; whereas in the other, the eyes were saved by work that any general practitioner should perform, and the priceless boon of vision preserved for an entire life.

I was forcibly impressed with this experience at the time, and have often since been appealed to by it. More substantial good is done by saving the sight of one infant than would come from a dozen successfully performed cataract extractions.

Appreciating the importance of ophthalmia neonatorum, various States in our own country, and others abroad, have enacted laws requiring midwives to report to proper authorities all cases of the disease coming under their observation, it being taken for granted that all physicians understand how to deal with it. It has been a privilege which I have frequently taken advantage of—and the same is true of many of my confrères—to speak of this disease before medical associations, and I trust that I shall never tire of doing so. I have been met by the assertion that it is a city disease, and hence of less importance to the country than the city practitioner;

but such is not the case. Credé found that it occurred in ten per cent of all cases of labor (Arch. of Gynecol., 1881, Vol. XVII, p. 52). The New York State Commission to investigate the condition of the blind (1906) found that it occurred in two per cent of all cases of labor. It furnishes about five per cent of all eye diseases, and causes more blindness than any other single eye affection. According to Magnus, whose figures are usually accepted, 10.80 per cent of the blind have lost their sight from this disease; but in the institutions for the blind in New York, where the young predominate, it is held responsible for twenty-six per cent, and in Mexico, thirty per cent of the blind. The United States Census Reports for 1900 give as the minimum number of blind in this country, 64,763; and if we apply Magnus' conservative figures, we have nearly 7,000 blind in this country who have lost their sight from ophthalmia neonatorum. Just think of it! This hopeless, helpless army, nearly seven thousand strong, doomed to live in blindness, each member of which is a drain upon the sympathy, the anxiety, the care and the finances of his family, his community, his country. If this be a field for the philanthropist to minister to the wants of his fellows, how much more is it the special field for the physician, who can, and should, practically stamp out of existence the disease which causes such blindness! Nor is this all. The subject is important from an economic standpoint, for it costs a deal to care for this large number of blind people. If we allow the very modest sum of \$132 per year (\$2 per week for board and \$28 for clothing) for

the support of each blind person, the total will reach \$924,000. But we cannot stop here. These people are consumers, not producers, hence to the cost of their sustenance must be added the loss of their earning capacity. The sexes are probably equally divided, and if we place man's wages at \$1.20 and woman's at forty cents per day, \$1,552,800 will represent the earning capacity to this country, annually lost, by those blind from ophthalmia neonatorum. To bring the subject nearer home, Tennessee has 2,400 blind people, of whom at least 250 are blind from ophthalmia neonatorum, costing the State \$33,000 to support, and entailing a loss in earning capacity of \$62,650, if we adopt the figures just given. Ophthalmia neonatorum is caused by the irritating vaginal discharges (usually containing the gonococcus) from the mother, which gain access to the eye of the infant during or after birth. It usually appears from the first to the fifth day. Beginning as a catarrhal inflammation of the conjunctiva, it rapidly assumes a purulent type. The edges of the lids are glued together, and pus may well up, when they are pressed apart. The outer surface of the lids may be swollen, and often red, while their inner surface is red, swollen, succulent and readily bleeds on touch. The ocular conjunctiva is injected, and may be swollen so as to mount up beyond the cornea (chemosis). The acute symptoms usually last a week or ten days, when there is apt to be a change. If for the worse, the cornea becomes hazy, ulcerates and breaks down, allowing the fluids of the eye to escape, the iris to prolapse, and loss of sight results. If for the better, the more acute symptoms subside, leaving a purulent conjunctivitis, which lasts for weeks, or months—a possible source of danger as long as it lasts. Both eyes are usually affected. The eyes should be cleansed, and washed with a saturated solution of boric acid often enough to keep

them free from pus. The wash should get well in on the eyeball, and throughout the conjunctival sac; and pads, wet with the wash, may be kept upon the lids during the intervals of treatment. The inflammation should be controlled by nitrate of silver (one or two per cent solution) applied once or twice a day to the everted lids, and this should be reinforced by the use of argyrol or protargol at the hands of the nurse, a twenty-five per cent solution of former, (or a ten per cent solution of the latter, of which five drops can be instilled into the eye every three hours or, or oftener, if necessary. Should ulceration of the cornea appear, use the eye-wash hot. Put a drop of a one per cent solution atropia sulphate in the eye three times a day (unless the ulcer be in the periphery of the cornea, when one-half of one per cent solution of eserine may be substituted for the atropia). A solution of dionin, two to five per cent, may be used to advantage, a few drops in the eye once or twice a day.

The etiology of the disease furnishes the keynote to its treatment. It should be prevented. Every parturient woman with a vaginal discharge should have the canal washed out before the birth of the child with some antiseptic solution. All infants from such women should be bathed in warm water as soon as born. One drop of two per cent solution of silver nitrate should be put in each eye, and a pad of cotton wet with boric acid solution should be kept on the eye for the next twenty-four hours (Credé). These rules are neither complicated nor difficult, and their observance will prevent ophthalmia neonatorum and the many aimless, saddened and useless lives which blindness from this disease entails.

The effectiveness of Credé's method is shown by the fact that prior to its use in the Leipsic Lying-In Asylum, ophthalmia

neonatorum occurred in 10.80 per cent of all cases of labor, and after its adoption it fell to two per cent and less.

Five drops of a fifty per cent solution of argyrol or a ten per cent solution of protargol, would probably answer as well as, if not better than, the nitrate of silver

solution. As the disease is infectious, reproducing itself when the discharge from an infected eye reaches the conjunctiva of a healthy one, the strictest cleanliness should be observed in handling a case, and in cleansing or destroying materials about which the discharge has found lodgment.

PURULENT OPHTHALMIA.

BY O. DULANEY, M.D., DYERSBURG.

KNOWING that much has been said and written on this subject, yet there remains quite a difference of opinion in regard to treatment of this disease, and as time will not permit me to discuss this subject fully I shall limit my remarks particularly to gonorrheal conjunctivitis in the adult, with especial reference to some complications, clinical observations and treatment, based according to severity or virulency of the disease.

Prophylactic Treatment.—It is the duty of every physician to warn his patients infected with gonorrhea of the great danger of infecting the eyes by the discharge which may be conveyed by means of the fingers, towels, linen, etc. The best possible method of preventing the disease is to destroy the infection as it leaves the bodies of infected persons. After the infection of one eye, the sound eye should be at once protected by means of a Buller's shield.

Medicinal Treatment.—As this is a disease in which we have a profuse discharge, absolute cleanliness is one of the most useful agents. The conjunctival sac should be irrigated frequently with a saturated solution of boracic acid, permanganate of potassium 1-5000, or solution carbolic acid one to two per cent, also moist cotton pledgets may be used to wipe out the secretions which are left in the conjunctival

sac after irrigation. In severe cases much benefit can be derived by irrigating the conjunctival sac by the use of a fountain syringe, placing the lower part of syringe three inches above the level of head so as to have as little force as possible, which can also be lessened by tying a cord around the tube, and especially where we have corneal ulcers, the special irrigation with a hot solution of carbolic acid, which acts not only as a local anæsthetic and antiseptic, but as an astringent and reduces the swelling of the conjunctival folds.

Hot applications are very useful after the inflammatory stage has subsided, and are always indicated in corneal complications, and should be applied from ten to fifteen minutes every hour or two.

Cold applications are recommended by quite a number in the treatment of these cases, which is all right in the early inflammatory stage, and before we have the yellow or greenish yellow pus. After this the hot applications are much preferred on account of the cold reducing nutrition in cornea to a point where ulceration may set up. The cold applications should never be used for more than ten minutes at the time with long intervals, and never after we have a corneal ulcer. I must say in my opinion the cases are few in which we see early enough after infection to get

much benefit from the use of cold applications, but may have serious complications from use, if the attendant is not expert in these matters.

Argyrol.—I am a firm believer in the efficacy of argyrol in preference to any of the other preparations of silver, also the nitrate may be included. Its application is painless, non-irritating even to the mucous membrane, and can be used safely by the physicians in the rural districts where it is not convenient to have them placed in the hands of a specialist or trained nurse, but to rely on some one of the family to carry out the instructions as directed. Nitrate of silver is a dangerous remedy unless used by those who have had quite an experience.

Argyrol is claimed by many of the authorities to be the best of all gonocococides. It seems to have a deep, penetrating power and prevents the growth of the gonococci, lessens the discharge, allays pain, and can safely be recommended to the unskilled surgeon in the treatment of gonorrheal ophthalmia, probably getting the best results by instilling from twenty-five to fifty per cent solution varying in the severity of the disease, to be instilled every fifteen to thirty minutes after using the antiseptic solution, as before mentioned. Where we have corneal ulcers fifty per cent solution should be used and better by the immersion method. After pus formation has checked then good results are obtained by applying one or two per cent silver nitrate, to the everted lids, to reduce the swelling of the conjunctival folds.

Treatment of Complications.—Corneal ulcers are rare where argyrol is used early in the disease. Even ulcers in the severest form may be rapidly cured by the frequent or constant use of this solution. I have not yet seen a single report where panophthalmitis resulted after its use.

Atropine sulphate, one per cent solution, should be used in all cases of corneal

complications, should be instilled two or three times daily, or often enough to keep the pupil well dilated. It is only by persistently keeping up treatment and varying from time to time as the case demands, that we can hope to arrest the progress of the disease and prevent those disastrous sequelæ which, invading the eyeball and deeper structures of the lids, result in life-long suffering. To further illustrate the good results which may be obtained by the use of argyrol in this disease, I will report four cases of binocular infection for your consideration.

Patient No. One.—Man, age 34, referred to me by Dr. T——, with the following history: Having had the urethritis for several weeks, in some way, had gotten both eyes infected; left eye had been infected for five days, right eye about two days; the lids were extremely swollen, also a very profuse muco-purulent discharge from both eyes; the right eye, while it had not been affected for more than twenty-four hours, and some time after the left eye was involved, the lids were much more swollen, discharge more profuse, symptoms all being exaggerated. On inspection of the cornea of the first eye, it showed to be a little hazy, the last eye involved, the cornea looked milky; also found a large central ulcer. This man was sent to the Dyersburg hospital. The treatment was carried out in this manner: irrigated frequently with boric acid solution, wiping out the conjunctival sac with moist cotton pledgets, instilling twenty-five per cent solution of argyrol every thirty minutes, one per cent solution atropine sulphate, often enough to keep the pupil dilated. Instructed the nurse to apply hot applications for fifteen minutes every two hours. On the second day after entering hospital, had a perforation of the cornea of right eye, the aqueous humor escaping and the cornea remained prolapsed for some time; seemed to be a hopeless

case from a visionary standpoint. Realizing the severity and rapid course of the disease, and that panophthalmitis seemed to be inevitable, at once began irrigating the conjunctival sac with a two per cent solution of carbolic acid every two hours. Increased argyrol to fifty per cent, keeping the conjunctival sac immersed with this solution. After twenty-four hours could see signs of improvement, which continued slowly. In a few days perforation healed, leaving only a small scar. For pain, which was very severe in this case, gave large doses of salicylate of soda every four hours, one-fourth grain of protoiodide of mercury three times daily after the acute inflammatory stage had subsided. Kali-iodide was given until patient recovered. The first eye affected, after instilling a twenty-five per cent solution of argyrol every thirty minutes for five days, the discharge checked and was well after tenth day of treatment.

Patient No. Two.—A young man, age twenty-one, who had specific urethritis, consulted me for a severe inflammation of both eyes, stating that he had just sobered up from a good old-fashioned drunk. On examination, found that it was yet in the inflammatory state. After cleansing the eye with a boric acid solution, instilled a fifty per cent solution at once and prescribed a twenty-five per cent solution to be instilled into the conjunctival sac every thirty minutes while the discharge was more purulent, after the second day, but it had entirely ceased by the sixth day, and patient was discharged on the ninth day after treatment was begun.

Patient No. Three.—A little girl, two years of age, had ophthalmia of both eyes. Had been affected just about sixteen hours before seeing her. The lids were so much swollen it was with great difficulty for an examination to be made of the cornea. Instructed her mother to irrigate the eyes frequently with boric acid solution, and

instill a twenty-five per cent solution of argyrol every thirty minutes; also a fifty per cent solution every six hours for the first twenty-four. Discharge had ceased by the eighth day. Applied nitrate of silver one grain to the ounce to the everted lids to reduce the swelling of the conjunctival folds. Patient made a complete recovery and was discharged on the fifteenth day.

Patient No. Four.—A negro boy, aged nineteen, referred to me for treatment, after being affected for ten days. On examination, I found a large central ulcer of the large cornea, a peripheral ulcer of the right eye, chemosis of the conjunctiva encircling the entire limbus of the cornea of both eyes, the discharge so profuse, it seemed impossible to rid the eyes of the secretion as fast as it accumulated. Having to depend on this boy's mother to carry out my instructions, had to be extremely careful as to what course to pursue. Prescribed a one per cent solution of atrophine sulphate, two drops in eye every six hours, irrigating the conjunctival sacs by means of fountain syringe which contained a one per cent solution of carbolic acid, which was used hourly; also kept them immersed in a fifty per cent solution of argyrol. Eyes began to improve rapidly. The discharge was checked on the ninth day of treatment. Ulcers were healed by end of the sixth week, leaving a slight opacity of each cornea, but vision fairly good.

DISCUSSION ON THE PAPERS OF DRs. MINOR AND DULANEY.

DR. G. C. SAVAGE, Nashville: I have no "specific" for purulent ophthalmia neonatorum to announce, but I have a plan of treatment that gives me very good satisfaction. Before speaking of that plan of treatment, let me emphasize one very important part of Dr. Minor's paper. Before Credé introduced his method of preventive treatment for ophthalmia neonatorum, ten children out of a hundred born in his mater-

nity hospital developed the disease. He lived long enough after the introduction of his method of treatment to see that percentage reduced to one-half of one per cent. In other words, one child in two hundred developed the disease in his maternity hospital just before his death as compared with ten children out of a hundred when he first introduced his treatment. All honor to the memory of Credé! May all countries on the face of the earth soon have laws that will look toward the compelling of the adoption of Credé's preventive treatment of ophthalmia neonatorum.

Now, I said I have a method of treating ophthalmia neonatorum and also of gonorrheal ophthalmia, as set forth in Dr. Dulauey's paper, which gives me very great satisfaction. There was a time when I ventured to take charge of ophthalmia neonatorum and also of gonorrheal ophthalmia in the adult with considerable dread, but that dread, to a large extent, has passed away, and a part of the credit for this treatment belongs to a man who recently died—Dr. Scott, of Cleveland, who, in 1894, read a paper at the meeting of the American Medical Association, held in San Francisco, advocating the use of one of the agents I shall mention later. Cleanliness is necessary in the management of these cases. I believe that the best method of cleansing is by means of pledgets of cotton, using sterile water saturated with boric acid. Folding on the side of the little fellow's face a soft towel, or a large pledget of absorbent cotton, while some one opens the lids, separating them as widely apart as possible, I hold a piece of cotton, saturated with the solution, just above the eye, and squeeze out a stream on the part next to the nose, the current going toward the temple, I continuing to use the pledget of cotton in that way until there is no longer visible any secretion. Now, you can cleanse the eye by this method, and you will not inflict any injury to the delicate epithelium of the cornea or hurt the conjunctiva in the least. When the cleansing has been effected, several drops of the solution of the formula which I will now give you, and which I have given before, should be used. It is a mixture consisting of hydrastin, tincture of opium, and boric acid. I prefer the alkaloid of hydrastin, and to effect the solution I mix with it number eight acetic acid; two grains of hydrastin (alk.); four drops of number eight acetic acid, which makes the combination acetate of hydrastin. With the hydrastin we use thirty drops tincture of opium, twenty grains of boric acid, and one ounce of water. This is

the Scott prescription. Six or eight drops are instilled every hour or two hours until the purulent secretion is under control, and then several times a day until the eye is free from redness. I know that nitrate of silver will kill the gonococcus. I know argyrol is given credit for doing some of the work. I neither use nitrate of silver nor argyrol, but I use protargol, forty grains to the ounce, and I instill that into the eye twice in twenty-four hours. A short time ago there developed in the City Hospital a number of cases of ophthalmia neonatorum. I had three nurses in my clinic with three babies in their arms suffering from ophthalmia neonatorum. These three cases I had investigated from day to day as to the absence or presence of the gonococcus. I have had the same thing done in private practice. On the third day, after beginning the protargol, the gonococcus had ceased to appear, and that, of course, means that the gonococci have been destroyed by the agents used. As long as protargol will do that for me, I do not want to substitute nitrate of silver. I have not had decided success in the use of nitrate of silver. I never use argyrol, but I have used protargol since it came out, and while it gives a little pain, it does not amount to very much. The cleansing should be done every fifteen or twenty minutes so long as the purulent discharge continues. There should be a nurse for the day and a nurse for the night for three or four days, for the battle is lost or won within a few days. After a few days one nurse can give attention to the case.

The plan of treatment which I have outlined, has given me wonderful satisfaction, and I do not stand ready to adopt any other method until I become convinced that some other method is better. If any confrère can show that the gonococcus has disappeared on the morning of the third day after the treatment by means of argyrol or nitrate of silver or some other agent, I will be willing to consider that agent. We should give high credit to our confrère, Credé, for what he has done. His name should have a warm place in our hearts for the wonderful work which he did in the preventive treatment of a condition which means much to the world at large. Dr. Scott, of Cleveland, now dead, is entitled to credit for what I have said in advocating one of the agents I have mentioned.

I do not think you ought to try to invert the lid. I know you cannot do it easily, and I do not think you ought to try it, but simply lift the lid up and pull it down so that the agent may

reach the conjunctiva folds and do their work just the same as if the lid had been everted.

DR. E. C. ELLETT, Memphis: The previous speaker says he gets rid of the gonococcus in two days, but I have followed a plan which gets rid of them in six hours. That is by doing what Dr. Dulaney has told you to do—use argyrol. In cases of ophthalmia neonatorum or purulent ophthalmia, when the cornea became ulcerated, I was formerly accustomed to throw up my hands. I thought there was no use in trying to do anything when the cornea became involved. At the meeting of the American Medical Association in Boston I saw some cases in the Massachusetts Eye and Ear Infirmary, where they have a pavilion for contagious cases, in which the argyrol immersion method was employed, as advocated by Dr. Miles Standish and by Dr. Bruns, of New Orleans. It is essential to use the argyrol sufficiently often to keep the conjunctiva constantly bathed in it. I saw cases there that came in with corneal ulceration, and which, under this treatment, had healed. The corneal ulceration was arrested, and as Dr. Dulaney stated in his paper, healing occurred, instead of the ulcerative process going on to complete destruction of the cornea as has been observed heretofore. Since then I have used that treatment, and all the enthusiasm which Dr. Savage has for his method, I have for this. It is not my method at all, but just a method of treatment recommended and used by others.

As to the question of irrigating, I do not find that necessary. You separate the lids and instill the argyrol every fifteen or twenty minutes, and the oftener the better, and make no attempt whatever to cleanse the eye. Just take a wet pledget of cotton and wipe off what secretion is sticking to the lid, separate the lids, and drop the solution in. It does not wake the patient and is devoid of certain risks which may attend any other method of handling these cases, and particularly any method that is more elaborate than this. I have seen the gonococcus disappear from the secretion in six hours from the beginning of that treatment. The strength of the argyrol solution is fifty per cent. While that seems pretty strong, I believe a good deal of our lack of faith in the use of argyrol is probably due, first, to using solutions that are not strong enough, and second, in not using argyrol often enough. Argyrol is non-irritating. This is practically the treatment Dr. Dulaney has outlined, and I merely rise to emphasize it.

DR. T. J. HERRON, Jackson: I do not know of any worse calamity than to have a child blind from ophthalmia neonatorum. Two weeks ago there was a child brought to me with ophthalmia neonatorum. I do not say that the family physician was negligent, but it seems to me he was. I do not see any excuse for a man in this day and time to neglect such a thing as that. This physician confined the woman, and in twenty-four or thirty-six hours the child began to have pus from the eyes, and the doctor made the parents believe the child was all right. The condition was allowed to go on for more than two weeks, and when it was seen the child was becoming blind the case was referred to me, and to my astonishment I found the child totally blind in both eyes. When I told the mother the child was blind in both eyes you could hear her moan for a hundred yards. I do not believe any physician in Madison County would neglect a case of that kind.

My treatment of ophthalmia neonatorum is something like that which has been mentioned. I use argyrol, and as long as argyrol gives me the results it has, I shall continue to use it, and I do not use it every fifteen minutes. I see no objection to its frequent use, and if you will stick to it you will do a great deal of good. Since using it I have never had corneal complications. I have never lost an eye from ophthalmia neonatorum. I use argyrol, twenty-five per cent, every four hours. In between, I have the patient's eye cleansed thoroughly, and I want to say here I never use a fountain syringe. The patient's eye is gently opened, and the secretion is gently removed with a piece of cotton. I caution my assistant to be careful and not spread the infection. I had a complication in one case on account of the mother of the child fooling about and nicking the epithelium. This I stopped. It is rather hazardous to use a fountain syringe, for the reason that frequently we cannot give these people proper instructions as to how not to use too much force and doing damage in cleansing the eyes. In these cases I generally use one grain of hydrastin, ten grains of boric acid, and twenty drops of tincture of opium. I alternate that with twenty-five per cent argyrol, and my patients do well. I have never failed to relieve a single case. Whenever I have had purulent ophthalmia to deal with I have not had such good results. In such cases I do not use argyrol. I have not used it strong enough, maybe, and have not had implicit confidence in its use in these severe cases of purulent ophthalmia. If I had such a case, I

do not believe I should resort to the use of argyrol. I would use protargol, and I have had excellent results from it. I heard Dr. Ellett express himself before the American Medical Association with reference to the use of argyrol, and it may be I have not used it strong enough. I use protargol every two hours, forty or fifty grains to the ounce. When it comes to children with ophthalmia neonatorum, it is a little irritating, while argyrol is non-irritating. These cases sometimes persist in spite of everything we can do. Two or three years ago I had two or three nurses in a case in which corneal complications developed, and I lost the eye. I thought it was the patient's fault. But when these corneal complications arise, the case goes on from bad to worse. With the present treatment we have, we can promise patients more than ever before.

DR. JOHN T. ALLEN, Brownsville: Speaking from the standpoint of a general practitioner, I would like to say a few words with regard to ophthalmia neonatorum. The speakers who have preceded me have pretty thoroughly covered the ground as specialists. It has been many a year since I have had a case of ophthalmia neonatorum. Previous to twenty years ago I had several cases. At that time I did not watch my cases as closely as I have done in the last fifteen or twenty years. Since I have adopted the plan of looking after the cervical and vaginal secretions, I have not had a single case in my practice. Whenever a woman places herself under my care, to attend her during confinement, I not only examine the urine thoroughly, to ascertain the condition of the kidneys, but I inquire in regard to the vaginal secretions, and if necessary I examine them bacteriologically. If I see an unusual yellow discharge—a purulent discharge—I then make a thorough examination of that by Gram's negative staining, to ascertain whether there are any gonococci in it, and if so I give these patients appropriate treatment and get good results. I think here truly prevention is better than cure. Since I have adopted this plan I have not had a case of ophthalmia neonatorum. Previous to that time I had several cases, but was successful with the treatment then adopted. I used nitrate of silver then, and I thought it was a very good thing, when used in proper strength.

With regard to the treatment of these cases with protargol, I am inclined to use a stronger solution. Following the teachings and writings along this line, I find they use a stronger solution—forty, sixty, and eighty per cent protargol.

With regard to purulent ophthalmia, I will say when we get trouble of that kind caused by the gonococci, we have one of the most desperate troubles of the eye possible; and the line of treatment that has been suggested by Dr. Dulaney is very good, and we cannot do better than to adopt it.

DR. W. L. SIMPSON, Memphis: I think the treatment and course of ophthalmia neonatorum and gonorrhea in the adult is entirely different. As has been said, we do not lose any eyes in small children when they are properly treated. In ophthalmia neonatorum, I do not think I have ever seen an ulcer of the cornea, and I know I have never seen an eye lost, after treatment with argyrol, fifty per cent, every few minutes. I think argyrol is to be preferred to protargol. I have tried both agents in patients side by side, giving them at two or three hour intervals, and in other cases have used it every ten and fifteen minutes, and I prefer and get better results from the use of argyrol every fifteen or twenty minutes, especially the first day or two, and then gradually lengthening the interval as convalescence takes place. I do not wash the eye with boracic acid or anything else. If there is any discharge or secretion about the eye, I take a piece of cotton, wet in boric acid, and let it run over the edge of the lid. I do not try to turn the lid; I simply sponge off the secretions which have been washed out by the heavy argyrol. Argyrol is supposed by some to act by its being heavy in lifting the pus out. Argyrol is not penetrating. If argyrol acts by means of its weight, then the heavier solutions, fifty per cent would be better than ten per cent, and in my experience the fifty per cent solution is better. There is no objection to the use of fifty per cent rather than ten per cent that I know of.

In ophthalmia in the adult we have a very different disease, and I think anybody who has treated many of these cases has seen an occasional case go on to corneal ulceration with the very best of treatment. We see the discharge stop, and even though the cornea is only very little affected at the time the patient comes to us, the cornea will slough away, and we cannot save it, no matter what we may do. I do not mean to say that every eye that gets a little ulcer on it is going to be lost, but we all see cases in which with the very best treatment we may give cannot stop the trouble, and the patient goes on probably to a general infection of the eye. In gonorrheal ophthalmia of the adult the treatment is more difficult, more prolonged, and

certainly too much care cannot be given these patients. As a rule I carry out the usual treatment, argyrol every fifteen or twenty minutes, twenty-four hours in the day, having two well trained nurses and treating the complications as they arise. There is another point I would like to make in these gonorrheal ophthalmia cases. It is a good thing to make a wall of putty around the eye and fill this with argyrol, thus giving a continuous bath. This would be quite an ideal method if it were not for the movement of the patient, but at times I have found this treatment act very well.

DR. WILLIAM LITTERER, Nashville: Remarks have been made by several speakers that by the inability to demonstrate the gonococci in a given case, which previously showed the germ, means that the patient is cured. Such a statement, strictly speaking, is not true under our present knowledge of gonorrheal infections. The gonococci may be found more deeply situated, and no one can positively say that the case is really cured where there is an absence of gonococci. The plan outlined by Dr. Allen in examining the vaginal discharges for gonococci is a good one. One should use the Gram stain because it is exceedingly difficult to recognize gonococci in the vaginal discharges. There will often be found quite a number of diplococci simulating the gonococcus if the ordinary stains are employed, but by using Gram's method they can readily be differentiated from them. Another important point well worth considering in examining the vaginal discharges for the gonococci, and that is to obtain your specimens in and around the urethra as well as from the mouth of the cervical canal. I have oftentimes made examinations from the vaginal discharges as it was exuding, and obtained negative results, whereas in obtaining specimens from the urethra and cervical canal, my percentage of failures was reduced to a minimum.

DR. GEORGE H. PRICE, Nashville: In the discussion of this subject, Dr. Litterer brought out a very important fact, namely: the disappearance of the gonococcus from the discharge is not absolute proof of having checked the disease. In some institutions they use very large quantities of permanganate of potash (dilute solution), which will cause the disappearance from the secretions of the micro-organisms, but it does not destroy the micro-organisms which may be deeper down in the tissues. The use of nitrate of silver will destroy the micro-organisms if it

comes in contact with them. The reason that the nitrate of silver does not destroy all micro-organisms and the reason why it does not check the discharge except temporarily is because it forms a pellicle on the mucous surface; this protects the micro-organisms which lie deeper down until there is exfoliation of that pellicle and development again of the micro-organism. The nitrate of silver destroys those organisms that are situated in the superficial layers or that are present in the secretions in the eye. The treatment of gonorrheal ophthalmia with nitrate of silver alone is unsatisfactory. The use of organic silver salts in such cases as this was advised for the purpose of finding a salt which had a penetrating capacity sufficient to reach the deeper structures. They used argonin, and argyrol, but argyrol does not penetrate sufficiently, for the albuminate that comes in contact with the mucous membrane, which is secreting, will be only partially converted into a peptone; but if you can find these peptones in a solution, you then have an agent which will penetrate deeper than the ordinary albuminate of silver. Protargol solution is a peptone solution of silver; therefore, protargol solution penetrates more deeply into the tissues which are involved in the inflammation, due to the presence of the micro-organisms, than any other. The consequence is, these micro-organisms will almost surely disappear and cannot be detected again, after free use of the protargol for a short time. We may not be able to detect them after the use of argyrol, and not only is that so with the micro-organisms producing purulent ophthalmia ordinarily, but it is likewise true with regard to the disappearance of the micro-organism after other similar agents have been used. One of the gentlemen who have spoken had a bad infection of his conjunctiva due to the organism known as the *muco-aerogenes capsulatus*. This organism penetrates very deeply. I refer to Dr. Litterer. Dr. Litterer was experimenting with this peculiar organism and by some mishap it got into his eye. He had a most violent attack not only of purulent ophthalmia, but of pronounced iritis, together with cyclitis. In fact, he had a violent inflammation which was characteristic of this peculiar organism, which is especially prone to burrow into the deeper structures and produce pus. This inflammation was controlled with protargol. I have no objection to any man using any solution he finds always efficient in his own hands. Every man is the judge of whatever he should use. I have only used argyrol to a limited extent. I depend

almost entirely upon protargol, and I have never had it fail. I have never seen a case progress and go to the bad under the use of protargol.

A MEMBER: What strength do you use?

DR. PRICE: I use it in from thirty to forty grains to the ounce. It is instilled according to the requirements of the case. I am not an advocate of irrigating with a fountain syringe, because I think it is dangerous in the hands of the inexperienced. I am satisfied from the remarks of the gentlemen who have discussed this paper that argyrol is satisfactory, and in addition to that it is most reliable, but I have not had the experience with it.

DR. MINOR (closing the discussion on his part): I do not think I can add anything to what I have already said. Dr. Andrews has touched most vitally upon the prevention of the disease, and it is in the hands of the general practitioners to prevent it. I do not attach so much importance to the treatment of ophthalmia neonatorum by the specialist as I do to its prevention by the general practitioner. He can prevent it, and that was one of the important points I desired to bring out in my paper, namely: that prophylactic treatment should be practiced, and this is in the hands of the general practitioner, who can stamp out the disease.

DR. DULANEY (closing the discussion): I appreciate very highly the remarks the various gentlemen have made. It was not my purpose

to introduce some new treatment or new method of treatment, but to try to give the general practitioner, who first sees these cases, a practical method which he can follow and with which he can get good results.

I have looked up a great many reports of cases of ophthalmia neonatorum and the preventive treatment, and particularly the report of Cragin, of New York City, who is the obstetrician in charge of one of the large lying-in hospitals, and his best results have been attained by the use of argyrol used as a prophylactic. Argyrol in fifty per cent solution will destroy the gonococci in thirty seconds. By observing a series of cases in two thousand patients he has obtained the best results by the use of argyrol. After using argyrol as a prophylactic treatment he has reduced the cases of infection down to twenty-four in two thousand. In the case of ophthalmia neonatorum I do not use the fountain syringe at all. In these cases the eyes are usually infected from a chronic gonorrhœa, and the discharge is not purulent as from the urethra in one of the acute cases. The more chronic the disease becomes, the less purulent the discharge, and the easier it is to control. I have had no trouble from the use of the fountain syringe. It should be used with care. I do not think we should allow people to pull the eyelids apart, but merely syringe the eye and get rid of the secretion. We know that absolute cleanliness is the main object in these cases, and if the eye is infected from the secretion and that secretion is allowed to remain there, there will be reinfection from it.

TRANSDUODENAL CHOLEDOCHOTOMY FOR REMOVAL OF STONES FROM THE DIVERTICULUM AND DISTAL EXTREMITY OF THE COMMON DUCT.*

BY F. D. SMYTHIE, M.D., MEMPHIS, TENN.*

A PATIENT, female, forty years of age, was recently referred to me by Dr. R. L. Murph, of Dyersburg, for the purpose of having an operation performed for the relief of gall stones.

The initial attack was experienced about July 1, 1909, at which time she had a severe chill, considerable fever, and suf-

fered great pain. The pain was relieved, but not arrested, by morphine.

Patient stated that pain in region of gall bladder and right epigastrium has been persistent in varying degree since the first attack, July 1st, and frequently very severe.

She became jaundiced on the third day of the attack and never cleared up, but on

*Read by title.

the contrary grew more intense as time passed on.

At the time she consulted me it was very pronounced and she was also very much emaciated, flatulent and constipated, with weak pulse and subnormal temperature.

Physical Examination.—Rigid right rectus. Pain increased by pressure over gall bladder region, which was low down, due to hepatoptosis of liver. Second painful spot about two inches above and to right of umbilicus. Third painful spot under shoulder blade, apparently not increased by pressure.

Diagnosis of family physician—gall stones—was concurred in—stone of the gall bladder and common duct.

Operation.—An incision along the outer border of right rectus was made demonstrating the liver low down, the fundus of the gall bladder projecting one inch, or more, below its lower border and filled with stones. The stones were removed from the bladder according to the regulation fashion. They were of good size, fauceted, and numbered eight. The common duct for two inches or more was studded with stones, slightly movable with the exception of one very large one near its duodenal entrance. Repeated efforts to force this stone back into the gall bladder and out into a pathological pan failed absolutely, and the following plan was adopted. Its execution was so short, simple, safe and successful that I feel justified in submitting the experience to the society, entertaining the opinion that its adoption by others in operating upon similar cases will be attended by the same gratifying results as happened in my hands.

Technique of the Operation.—First. The index finger of left hand was introduced and curved along the under surface of the common duct and posterior surface of descending portion of duodenum, two-

thirds of its length to the large distal stone, the finger exerting pressure upward toward the abdominal incision. The tense overlying duodenum appeared to be no more than the ordinary covering of the duct. The anterior wall of the duodenum was incised, the lumen entered, found empty and clean, the posterior wall was then incised just over the stone, and lastly the common duct. The duct covering was dangerously thin and adherent to the large stone. The duct was split one inch and carefully peeled from the anterior surface of the stone. Next the stone was removed through the duodenal incision. Some bile presented immediately after its dislodgment. The remaining stones, ten in number, were rapidly and easily expressed through the same opening. All the stones were fauceted with the single exception of the large one, which was egg-shaped and rough.

It was observed that the common duct and posterior duodenal wall were adherent, the length of the incision, obviating the danger from bile leakage into the peritoneal cavity, without the necessity of suturing. Suturing would have to be done in the absence of adhesion.

The operation on the gut was then completed, which consisted in suturing the incision through the anterior duodenal wall only. The gall bladder was drained and the abdominal incision closed in the proper manner, the technique for which is familiar to all those doing abdominal work.

Some time after I had operated in the manner above described I noticed in the *Annals of Surgery* that McClean, of New York, published an article on transduodenal choledochotomy, an abstract of which appeared in the *Memphis Medical Monthly*.

Transduodenal choledochotomy is superior to other modes of attack for the removal of impacted stones of the common

duct situated in its inner third and in the diverticulum for the following reasons:

First. The stone, or stones, can be removed with a minimum amount of trauma to the peritoneum.

Second. The pathology is with very little difficulty rendered available for surgical treatment, accessibility being the keynote to rapid, safe and successful work whenever or wherever operating.

Third. Entering the duct from above, through the duodenum, obviates the ne-

cessity of establishing artificial drain; drainage of the diverticulum by means of the rubber tube is practically always demanded in cases where the duct is opened proximal to the duodenum.

Fourth. The blood vessels are completely out of harm's way during this operation, a point well worthy of consideration, as injury to any of them provokes free hemorrhage, and sometimes is responsible for a death that would not occur if this plan of operation be adopted.

SUGGESTED CHANGES IN STANDARDS IN MEDICAL EDUCATION.*

BY B. F. TURNER, M.D., MEMPHIS.

WITHIN the past two months there have occurred meetings of two organized bodies, whose deliberations are destined to exercise potent and far-reaching influence on the problems of medical education. I refer to the meeting of the Educational Committee of the American Medical Association, at Chicago, and the meeting of the Judicial Council of the American Association of Medical Colleges at Baltimore. The personnel of the membership of each of these bodies, and of the participants in their deliberations, is of such character as to inspire the highest respect, on the part of the profession at large, toward their conclusions and recommendations. It is for the purpose of eliciting a discussion of some of the more important of those conclusions and recommendations that my contributions to this programme is offered.

1. *Requirements for Matriculation.*—It has been recommended that the aspirant for matriculation for a course of study leading to the M.D. degree should

present at least a certificate showing that the applicant has completed the full course of study in a properly accredited high school, or an academy representing approximately such a course of study. Of all the indictments which have heretofore been brought against institutions teaching medicine, that of receiving students with insufficient preliminary education is probably most generally justified. The arduous labor involved in encompassing the ordinary medical curriculum certainly requires that the student possess such attainments as render it possible for him to intelligently grasp subjects more or less abstruse, and this cannot be accomplished but by minds to some extent trained to study. Nevertheless, the universal adoption of this standard as a minimum requirement will work a hardship upon such aspiring young men as live in communities where high school facilities do not exist, and who have not the means to go to academies at a distance. Many a man who is today a doctor of large influence and an ornament to his profession never saw the inside of a high school or an academy, acquiring his

*Read by title.

preliminary training by the light of the kitchen lamp after his day's work was done. What a pity it is that henceforth the door of hope of a career in medicine is forever closed to all such; and what a pity also that the profession of medicine will be henceforth deprived of the influence of such giants as have heretofore hewn out a path for themselves against the lack of educational advantages. Still, the abuses which have heretofore obtained in the matter of receiving into the medical college men manifestly unfit for intellectual labor of a high order seem to justify this drastic step, and all colleges whose aims are honestly high will henceforth adopt this recommendation, thus taking the longest possible step in the direction of elevating educational standards. The American Academy of Medicine is committed to the recommendation that all matriculants in medicine possess a literary degree, either the B.S. or the B.A. Whether we will ever arrive at this high standard—or, indeed, whether it would be wise ever to do so—is debatable. With four years devoted to the acquisition of a literary degree and four more to the M.D. degree, with a couple more for hospital work, before the embryo doctor begins his life work, he finds himself at 27 or 28 years of age as he enters upon his professional career. If, then, according to the dictum of our esteemed Professor Osler, he is useless at 50, and must be chloroformed at 60, the outlook for the graduate M.D. is gloomy, indeed.

2. *Should a Common Standard of Medical Education Prevail in All Colleges?*—As we look abroad over the field of education in all other departments do we find that the same curriculum is given in every institution which issues a degree? Take the B.A., for instance. Would anybody pretend that every institution in this country issuing this de-

gree gives the same amount of the same kind of work leading up to it? Then why should it be so in medicine? You are picking out a college for your boy. You look over a large number of catalogues which exhibit what work each institution gives leading up to the B.S. or the B.A. and make your selection according to the needs and purposes of your particular boy. Why should you not enjoy the same latitude if your boys seeks the M.D. degree? Who is there who may dictate what work shall constitute the work of the B.A. degree? Who shall prescribe what shall constitute the work of the M.D. degree? The elaborate courses laid out by the Johns Hopkins, or by Harvard, are most commendable, and, for those who are especially talented or have plenty of time and money at their disposal, are most desirable. But who is there who should say that the curricula offered by these great institutions are the least that may prevail, and that colleges offering less must be discomtenanced? I submit that the requirements as to what courses shall constitute a complete course in medicine, which has been recommended by both of the above-mentioned bodies, is lofty, as an ideal, but dangerously close to being impracticable. It should be taken into consideration that the most useful doctor—*i. e.*, the man capable in the highest degree of relieving the sick and suffering—is not the product of laboratory evolution alone. The adding on of more and more hours in the lecture room, the laboratory or the clinic is never in itself going to give a guarantee of higher efficiency at the bedside. Instead, therefore, of fixing standards at impossible altitudes, at this period in the development of medical education, were it not better to fix a much lower standard as a minimum below which no college may fall, allowing the larger institutions to maintain those

standards which they approve for the benefit of those students who have the means, the time and the talent to pursue them?

3. *Should Didactic Instruction Be Dispensed With?*—Amongst the older methods of teaching which have been held up to especial ridicule, that of the lecture occupies a prominent place. There appears to be an assumption abroad that "medicine is an exact science;" and upon this postulate is based a number of innovations in imparting instruction. I beg to refer the members of this honorable body to their own experience and ask them to answer how much of the capital that is of value to them they acquired out of books and how much has been born of their individual experience. To my mind to dispense with teaching by means of the lecture would be to deprive the student of the rich store of knowledge which some leader has acquired by intelligent research on his own account. To teach by recitation out of books alone, or even mainly, would lead to exactly what is now so much deplored and condemned—namely, the production of the book or "compend" doctor. If lecturing consists merely of reciting what is copied out of a book, then of course it is to be deprecated. But if it consists of what it should be, the supplementing of the digest of all the literature upon a subject with the lecturer's own experience, then it is a part of the art of teaching medicine which can never be displaced by any other method.

Moreover, it has been recommended that the teaching of certain branches of medicine should be carried on by instructors who devote their time to their teaching, to the absolute exclusion of other work, and especially of the practice of medicine. Possibly in the field of chemistry this is practicable; but I beg to ask this honorable body in what

branch of the teaching of medicine, except chemistry, can the teacher apply himself to the abstract teaching of his branch, to the complete exclusion of bedside experience, with profit to the student? I speak advisedly, and from the results of the best thought I can bring to bear; the teacher, I care not who nor how great his name, who teaches medicine purely as an abstraction, and without that conception of the problems with which he deals which comes from a quickened sympathy with the sick and the suffering, misses much that is of the first importance to the student. We have all seen the teacher who sits down by the bedside of agony and suffering with: "Now, gentlemen, we have here a beautiful case of so and so." We know the pathologist and the bacteriologist who finds the germs and rubs his hands with glee. What the student needs is the sympathetic direction of the man who turns from bedside to laboratory, from operation to microscope, from consulting room to library—not so much to discover the secrets of nature as to alleviate suffering, to relieve anxiety, to prolong precious life.

4. *What Should Be the Attitude of Those Who Mold Opinion Toward Colleges Which Already Exist Without Endowment or Affiliation?*—Comment upon non-affiliated and non-endowed medical colleges has come to be more or less caustic, as if it were impossible for an institution to exist without these superior advantages. "Diploma mills," they are called. It may be true that in selected cases institutions are in existence wherein the acquisition of a diploma may be consummated with unseemly ease. But when the matter has been sifted to the bottom, how many such are there? At Chicago I heard at least three prominent participants in the discussions assert that half of the now existing medical col-

leges should die. Very well, which ones, I beg to ask, should die; and who is to officiate as executioner? Of course the answer is: "Some other than the institution with which I am connected." It were well, I think, to reflect briefly upon the evolution of the ordinary so-called "proprietary college." Is it not true that many of the colleges thus referred to had their birth in the zeal and enthusiasm of somebody who was striving to organize and elevate the professional standards back in the days when anybody who chose could practice the healing art, without license or restriction? And is it fair and reasonable to demand now of those institutions that they should destroy the results of years of patient effort and burn up money honestly invested in order that the teaching may be relegated to a certain chosen few? Were it not better to encourage the adoption of certain advances in standards within the reach of all, rather than to arbitrarily demand the impossible?

And so, we find ourselves today at a critical point in the development of medical education. In this great country of ours there exist districts in which the demand for a doctor of moderate attainments is just as real as in the great centers the demand for the highly educated

and superbly polished scientist is real. What man in this body would commend the spending of the first twenty-eight years of life in preparation, to then go and locate in the sparsely settled district where his fine attainments are rarely or never drawn upon and his remuneration is to be limited to a meager living? Yet are such districts to be utterly without the assistance of better medical advice than that of the "Indian doctor" or the nearest black mammy?

In my opinion there exists today a demand and a place for courses of study in medicine of different degrees of elaborateness. For those who wish to avail themselves of it, let the great institutions, with their great endowments, offer courses of study exhaustive to the utmost limit in every branch, and for those whose aspirations are more modest, let there be courses of study which are adequate for the needs of humbler careers. Let a minimum standard prevail with all, and let those who wish surpass it as they may wish. But to fix a standard which is represented, at present, by the ablest institutions only is to invite revolt on the part of the humbler institutions and the student body alike, with the dire results of disruption and disorganization of all efforts at elevation.

BRONCHO PNEUMONIA: ITS TREATMENT.

BY EARL WINTERS MABRY, M.D., MEAGSVILLE.

IN preparing a paper on this subject to be read before such a learned assemblage as this, the writer finds himself in a considerable dilemma as to what he can say within the range of his limited capacity that will engage your attention, and at the same time appeal with interest and effectiveness to an audience that is so familiar with the treatment of all diseases.

While the treatment of broncho pneumonia has long since become one of the beaten paths of our profession, when we come to think of its present-day mortality I believe that it will bear discussion. Please allow me to state, in the beginning, that broncho pneumonia is the most sneaking of diseases, and kills more children than any other complaint. Under

two years of age the great majority of primary pneumonia, and throughout childhood nearly all the cases of secondary pneumonia, are of this variety. It also pays its respects to the old and debilitated. Coming as it does in this tender age, or is superimposed upon some exhausting disease which has sapped the vitality of the patient, we can readily see why it is that in almost every case we have a fight throughout the attack.

How important it is to carry out all possible steps to prevent the occurrence of broncho pneumonia in a patient who is suffering from a disease known to be frequently complicated by it! In all forms of fever in which there is coma, in uremia, in apoplexy or in all conditions where the protective functions of the glottis are deficient, great care should be taken in feeding. Ether pneumonia is often due to carelessness on the part of the anæsthetist in not letting the saliva and mucus flow off freely. The proper treatment of hemoptysis and tuberculosis should not be overlooked. Children suffering from bronchitis, measles, whooping cough, etc., should be carefully watched.

In broncho pneumonia there is no critical stage as in lobar pneumonia. In severe cases the patient is in danger in the early stages from the intensity of the general infection, and from the embarrassment of the heart and respiration, chiefly from congestion. During the later stage the principal danger is from exhaustion.

While the pathological process does not pass through the regular order of changes, such as are seen in lobar pneumonia, L. E. Holt says that there are a certain number of cases which appear to follow tolerably well-defined stages of congestion, red hepatization, gray hepatization, and resolution, but that the disease may be arrested at any of these stages and the case recover or death may occur at any stage, and there be found at autopsy different

portions of lung representing all the stages mentioned.

General Treatment.—Rest in bed. Give the patient a chance to get well by putting it under the best possible advantages. Do not smother with clothes. If possible, select a room with plenty of light and good ventilation. Oxygen is the best drug. No one takes cold with a temperature 102 or 103; but do not let patient be in a draft. If we cannot get a trained nurse we should give our directions (in writing) to the most intelligent member of the house. We are the general, and must be in supreme command.

A child should be nursed on the knees of nurse or mother, because of so manipulating it, it breathes deeper. In older persons, their condition should be constantly changed to avoid hypostatic congestion. Because of the danger given above, which so often comes in the later stage, we should give the most careful attention to the patient's diet throughout the attack, for his salvation depends upon his strength. Medicine should not be given in milk to children, for this often causes them to become disgusted with their food.

Food should be given at regular intervals, from two to four hours, according to patient's condition and the amount he is able to take at one time. Formerly many patients died during convalescence. You remember it was the French writers who described their patients as having "died cured." Milk should form the basis of diet. This may be peptonized or diluted with lime water. Fruits may be given at any time. Orange juice, lemonade and grape juice are often beneficial. The return to solid diet should be gradually. Those patients should receive an abundance of water. But few diseases show a more wonderful tolerance for alcohol, which is utilized by the body as a food and a stimulant. In weak individ-

nals and alcoholics it should be given early, and in all patients as soon as the first sound of heart becomes prolonged and weaker. Strychnine and other stimulants have obviated the need of enormous doses of alcohol formerly prescribed. The physician should be the judge as to whether the stimulant is doing good or harm. Feeding children is usually a difficult problem, for while they may take food for a while readily, they may refuse the next time, or vomit if it is taken. To see one of those little fellows already exhausted from measles or pertusses, and then to have to battle with broncho pneumonia, it makes a fellow just from college feel that his first marks in the medical work are unsatisfactory and disappointing, life harder to handle than we thought, all theory worthless.

When milk is well borne, it too should constitute the diet and be given at frequent intervals. It may be diluted with lime water or carbonated water. When there is much vomiting, equal parts of lime water and cinnamon water given fifteen minutes before taking food is worth trying. All food that causes flatulence should be avoided. Locally, I am not condemning the orthodox treatment of applying the cotton jacket, which is very popular with some, yet I do not know that it is any good. Poultices restrain the movements of the chest, and there is danger of cold when taken off, or a careless nurse may let get cold while on. Camphorated oil, mustard and turpentine are well worthy of mention. Blisters should never be made. I notice some still advocate the use of moist air in the room, and in the water for this purpose put some stimulating antiseptic. This precludes the possibility of having the windows open, and the patient cannot get the beneficial effects of the fresh air treatment, which he is entitled to and should have.

Many drugs have been given in broncho pneumonia, but we have none that is a specific. See that the patient's bowels

are all right at the outset, giving calomel or oil. Then we should give drugs only to meet certain symptoms—fever, cough, weakness, etc.

Reduce temperature, if necessary, by sponging or bathing. A child does not die from high temperature, but rather from a failing right heart. Ice-cold packs are recommended by some. Ice cold baths have been recommended by Thomas. During my short term of only three years' practice I have never used either. I prefer baths of the normal temperature of body, as recommended by Forcheimer, or hot baths especially for children or debilitated patients. Nervous children do not seem to be so restless. A temperature that runs a steady, high course signifies a marked resistance on the part of the patient to the disease. Cough, as a rule, is very distressing early in the attack, and in addition to fresh air a sedative may be given. Later, when the cough becomes very necessary to free the lungs, we should encourage expectoration. Unfortunately, in the country the doctor is not called by some families to see a patient till the respirations are very rapid and the heart beginning to fail. Now, we must give some drug that will increase the action of the heart and cutaneous circulation. Study the physiological action of drugs, which are given as stimulants, and does not alcohol, just here, fill the demand?

We notice shallow, weak respirations. Strychnine increases respiration in energy and in depth. In sudden collapse, hot mustard baths, strychnine hypodermically, alcohol freely by the mouth, and the inhalations of oxygen are recommended as the most valuable measures. I said that we have no specific. During my three years' practice I feel that I have had my share of both lobar and broncho pneumonia to treat. I think that strychnine has given me better results than any other one drug. I do not wait for the shallow respirations or for the first round of heart to become prolonged and weak, but I give it almost from the beginning.

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THE fourth annual meeting of the Southern Medical Association was held in Nashville, 8, 9, 10 of this month, which meeting was quite largely attended by members of the Association from Alabama, Florida, Georgia, Mississippi, Louisiana and Tennessee. In addition to these representatives there were a number of visitors from other States, notably Dr. John B. Murphy, of Chicago, who delivered a special address on "Bones and Joints" before the entire Association at its morning session of the first day. This was, indeed, a feature of the meeting and one highly appreciated by every member and visitor who had the opportunity of hearing Dr. Murphy. His address was indeed a revelation to many who had not had the opportunity of hearing so eminent an authority on such a broad and vital subject, and we feel satisfied that the good seed sown will yield an abundant harvest.

On the evening of the first day the Association held an open session, at which the President's Address, by Dr. W. W. Crawford, of Mississippi, was delivered. This address dealt largely with problems of organization, of the medical profession

interested in this Association, and was full of food for thought. He impressed upon his hearers the vital importance, absolute necessity of, and the great benefits to be derived both by the profession and the general public, through such an organization, and made many suggestions as to methods of procedure looking to the perfection of the Southern Medical Association.

On the same evening Dr. A. B. Cooke, of Nashville, read a paper on the subject of "Safeguarding Society from the Unfit." This paper dealt largely with marriage from a sociologic standpoint and recommended the adoption of what is known as the Indiana law regulating the issuing of marriage licenses, which, in effect, is that the applicants for licenses to marry should present to the county court clerk a certificate showing a clean bill of health for each contracting party, which certificate is issued by the State Board of Health after an examination into the health and antecedents of the parties. It also dwelt upon the necessity of the State's taking steps looking to the prevention of the propagation of the criminal classes and degenerates by

such surgical methods as may be required.

Dr. W. D. Haggard, of Nashville, presented a paper upon the subject of "Goiter With and Without Hyper-thyroidism." The address was illustrated with a very complete line of lantern slides, showing the various conditions and giving an outline of the methods of operating and results obtained. The evening was an enjoyable one and very profitable to all present.

The sections on Surgery, Medicine and Ophthalmology presented most attractive programs, full of papers which elicited much discussion and which proved of great interest and profit to those who were fortunate enough to be present.

The attendance from Tennessee was not so large as we had hoped, but those who attended were amply repaid for the time taken from the ordinary routine of professional life. Among the social features was a general reception held at the Hermitage Hotel on the night of the 9th. This was a most pleasant occasion and enjoyed by all who participated. Ample arrangements were made for the entertainment of the wives and daughters of the visiting physicians, and although not many of them were present to take advantage of this feature of the meeting, yet everything was prepared for the occasion for their entertainment.

On the afternoon of November 10th an excursion to the Hermitage was the closing feature of the meeting. This proved to be of very great interest to many who had not had the opportunity to visit this historic place. The interest in this occasion was increased by reason of the fact that Dr. J. A. Witherspoon, of Nashville, made a short talk on Andrew Jackson, which gave an insight into his life and personal character which was appreciated by all present.

We are indebted to Mr. J. W. Thomas, President of the N., C. & St. L. Railway, for his great kindness in placing at the disposal of the profession a special train for the excursion.

FROM the standpoint of the layman, the physician, the commercial interests, and the State at large, there is no more important question than the public health. This is evidenced by the fact that the State, the towns and cities, as well as the country districts, are just now having presented to them through the State Board of Health and the Hookworm Commission, facts and figures demonstrating the great importance of, the urgent necessity for, and their immediate interests in, this very subject. Not only are these forces at work, but the organized profession, its State Associations, as well as in the various societies composed of counties in certain sections of the State, also the county organizations themselves, are having presented to them in a most thorough and comprehensive way the methods and measures for the prevention, cure, and eradication of those diseases which are preventable and which should be prevented, namely: such diseases as typhoid fever, hookworm, tuberculosis and various contagious diseases which prevail from time to time in the States and country districts as well. Special emphasis is being laid upon those diseases which are due to soil pollution, namely: hookworm and typhoid fever, and every effort is being made to educate the public so as to elicit the aid and active coöperation of every citizen interested in the welfare of the public. Every physician in the State should feel it his personal duty, born of the responsibility of his position, to encourage the rapid promulgation of such information as will aid in this great work and the physicians are especially urged,

whenever the opportunity affords, to encourage the agents of the State in this educational campaign.

The layman is largely influenced in his attitude toward this question by two considerations, one of which may be brought home to him at any time and the other of which sometimes confronts him when he least expects it.

The first is the great loss to business and commercial interests generally by epidemic diseases, which interfere largely with business and thus curtail to a certain extent, the income of every individual in the community affected.

The second is, that no home, unless protected by sanitary measures, is proof pos-

sitive against the invasion of disease and even if the individual home is protected, it is constantly threatened by those of the community which are unprotected. A single case of typhoid will frequently be the starting point of an epidemic, so also with other diseases which are propagated by infected water, milk and various foods. Hence, it becomes the duty of every physician to help educate the public and thus prevent, as far as possible, the spread of disease.

THE New York and New England Association of Railway Surgeons were given a special clinic at the New York Post Graduate Medical School and Hospital, November 4, 1910.

BOOK REVIEWS.

HOOKWORM DISEASE—Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By George Dock, A.M., M.D., Professor of the Theory and Practice of Medicine, Medical Department Tulane University of Louisiana, New Orleans, and Charles C. Bass, M.D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, \$2.50. C. V. Mosby Company, St. Louis, Publishers.

This volume, which is the outcome of the practical study and treatment of Hookworm Disease under the direction and supervision of two men who have devoted much time and attention to it, is a most attractive, interesting and trustworthy presentation of this subject, which is now receiving such serious consideration at the hands of the profession and the public in general. The history, as detailed in this volume, is indeed interesting and shows that the condition has been present in other countries for several centuries, where it has received more or less attention in times past. From the study of the distribution it seems that Belgium, France, England, Germany, Hungary, The Balkan Peninsula, and Italy, have been for a long time sufferers from it in some form. While in the United

States, it is within the last decade that attention has been drawn especially to this condition, and it appears that from Virginia to Florida, and Texas, including the Gulf States and reaching as far north as Tennessee, the disease has been traced and is now under investigation and special efforts are being made for its eradication. The economic importance can hardly be realized by those who are not familiar with its ravages in certain sections, and they can scarcely appreciate the importance and far-reaching effect of the good to be derived from a careful study of this subject as outlined in this volume, which has gone into the detail of modes of infection and how to prevent its spread. The Symptomatology is discussed in a well illustrated chapter in which the illustrations are taken from photographs of patients, both young and old, who are now suffering from or have suffered from the disease. In the chapter on diagnosis, the various methods of arriving at definite conclusions as to the presence of the disease is fully discussed. The prognosis, prophylaxis and treatment are discussed in such a comprehensive and lucid manner as to place in the hands of the physician the latest information as to methods to be employed for the prevention as well as treatment of the condition. The book is to be commended to all desiring information on this now live question.

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All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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COUNTY SOCIETIES.

To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

JOURNAL

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VOL. III.

NASHVILLE, TENN., DECEMBER, 1910

No. 8

THE NEW TREATMENT OF SYPHILIS: EHRlich'S "606."

A Preliminary Report of Cases Treated.

BY WM. LITTERER, A.M., M.D., NASHVILLE, TENN., PROFESSOR OF BACTERIOLOGY
AND PATHOLOGY, VANDERBILT MEDICAL COLLEGE.

THE intense interest and enthusiasm aroused by the announcement of the discovery of a remedy for syphilis by Professor Paul Ehrlich should recall to mind the excitement which was caused by the publication of the discovery of tuberculin in 1891. Unfortunately the brilliant hopes based on Dr. Koch's announcement was not fulfilled, inasmuch as this latter scientist was practically forced into publication before the therapeutic efficiency of tuberculin had been determined experimentally. Bearing in mind this disappointment, it is well to accept with some reserve the prophecies which have been made regarding the complete annihilation of a case of syphilis by a "Single Shot." Although a vast deal more sanguine view regarding its efficacy is assured, than was the case with Koch's tuberculin. Prof. Ehrlich has exercised a praiseworthy caution in restricting the use of the drug to official circles until such time as its uses and its methods of administration have been thoroughly and scientifically studied and its value and limitations demonstrated beyond any peradventure of a doubt. He has reports on over ten thousand patients treated. Another ten thousand will be collected before he allows the drug to be placed on the market. This drug, commonly called "606,"

has been used in the treatment of syphilis in all stages from the primary chancres to the deep specific lesions of the central nervous system. It seems to have the specific property of killing the spirochoetæ pallidæ in all its abodes in the tissue—that is, of curing syphilis in its three stages—primary, secondary and tertiary. It is destructive to spirochoetes in the test tube in dilutions of one to six millions. Possibly it has even a greater efficiency when circulating in the animal economy. The spirochoetes disappear entirely from chancres, mucous patches, etc., in from twelve to twenty-four hours after injection of the remedy, and the disease appears to be entirely arrested in sixty hours. These seem astonishing statements, but they are verified by a number of able observers as Ehrlich, Hata, Wechselmann, Alt, Iversen and a great many others. Ehrlich and Hata have shown that the preparation acts directly on the parasites and not on the normal tissue. It has further been found clinically that under its influence syphilitic tissues are actually absorbed. The observation that an infant suffering from congenital syphilis of a very severe type can apparently be cured by taking the breast of its mother after she has received a single injection of "606," suggests not only that the drug is

specific, but that it is powerfully specific. The new remedy is far superior in its curative action upon the symptoms of syphilis than any agent heretofore employed. The rapidity of its results is clearly seen after a single injection in primary as well as the usual secondary manifestations, roseola, papules, plaques, scleradenitis, but more astonishing is its cure in the malignant, tertiary and visceral forms which have resisted all forms of treatment.

It does not and should not be expected to reproduce tissues that have been destroyed by the spirochoetes. It will not restore destroyed columns of the cord or perforations of the palate or septum nor any other destroyed tissues. The drug will, however, in a number of instances, relieve the shooting pain, the girdle sensation, and the crises of tabes almost as a hypodermic of morphine would; and it lessens the cephalalgia of the intracranial gummata.

Discovery.—Professor Ehrlich's world-famous discovery of his "606" was not accidental. He has for many years been engaged in the synthesis of drugs with a view of developing some safe chemical compound more poisonous to the infection than to the person infected. In his work with sleeping sickness his attention was called to atoxyl as an agent for the destruction of the trypanosomes. Working from this as a basis he has built up in his laboratory a vast number of arsenical compounds in his search for some agent that will destroy the protoplasm of the parasite (with particular reference to that of syphilis) and leave the patient unharmed. The care and the patience with which this has been done is shown by the fact that already there have been over 630 derivatives discovered and tested, only four of which have proved at all acceptable, number 418 being the first partially successful in results, while none

was considered worthy of further trial until reaching the now famous "606." Since the experimental work has begun on the latter the research has continued and now Ehrlich announces still another compound, which he calls the "Hyperideal." It has been Ehrlich's dream to prepare an agent that will enter into the system without harm to the person and absolutely destroy by a single dose all the spirochoetae, leaving an uninjured organism free from infection. This principle is called by Ehrlich "therapia sterilisans magna," and it appears that in "606" he has, in a large measure, been successful.

Arseno-Benzol—"606"—Arsen-Phenol-Amin.

The chemical constitution of "606" may be indicated by the name Dioxydiamidoarsenobenzol.

This name has been abbreviated to Arseno-benzol, which is unfortunate, in that it is a name which properly belongs to another body. The term Arsen-phenolamin is recommended as an abbreviated scientific synonym for this new body, which has unfortunately been introduced into medicine under the term "606." The substance is a yellowish powder which rapidly oxidizes on exposure to air. It is most difficult to manufacture, since it must be placed under nitrogen absolutely without contact with the air, being a highly reduced product. It is kept in little glass tubes in a vacuum. In treating patients each tube must be opened and the contents either dissolved or suspended, as the case may be, and injected immediately.

Method of Administration.—Owing to a wider use of the drug and the difficulties in preparing it in a suitable manner, it will not be at all surprising if the results reported are lacking in uniformity or direct criticism against the drug, when in reality the error lies in the manner of its

preparation and the selection of suitable cases. It cannot be too strongly emphasized that the preparation and manner of administration are most important factors in the successful treatment and that failures or unfortunate results may be traceable to carelessness or faulty technique. The drug can be administered in three different ways: (1) Intravenously, (2) Intramuscularly, (3) Subcutaneously. I have employed all three routes and prefer the intravenous to the other two, so far as getting rapid results are concerned. The intravenous route produces no pain, but is said to be more toxic than the intramuscular method. The latter I am using at present. The subcutaneous route was so very painful, which lasted many days, that I discontinued that mode of administration. The intramuscular route is not without pain, which may be more or less severe, depending on how near neutral the drug is gotten. If it should be either acid or alkaline, pain will result to a greater or less degree.

Technique.—The surprisingly large number of different techniques is indeed confusing, as each clinician seems to be endeavoring to attach his own special method to Ehrlich's discovery. The following are references to a few methods, some of which I have used: those of Alt and Hoppe, Wechselmann and Lange, Michaelis, Lesser and others.

At present I am using Lesser's method modified to suit conveniences, which is briefly described as follows: "Take a graduated cylinder with ground glass stopper, in which there are about one dozen glass pearls to assist in mixing. Add "606" salt; immediately add 15 C. C. hot water, shake vigorously until every particle of the salt is dissolved; then add 2 C. C. normal sodium hydrate (NaOH) solution; a precipitate occurs. Then continue to add sodium hydrate solution in very small quantity, shaking vigorously after

each addition until the solution begins to clear; then drop by drop, until we have a clear solution. This should be neutral; if the cylinder does not contain 20 C. C. of solution, sterile water is added up to that amount. Then 10 C. C. of this solution is injected deep into the buttocks on either side, always taking care to cleanse the parts with soap, water, alcohol, and iodine."

In every instance patients should be sent to the hospital for treatment, and they should be required to stay at least three days at the institution.

Cases Treated with "606."—The following is a preliminary report of a few of the earlier cases treated with this drug. In due time all of them will be reported with full details.

Case 1. J. H. R., white male, age twenty. Typical chancre on under surface of penis, which persisted for two months, when secondaries appeared over his entire body, sore throat marked, but no patches or ulceration discernable, no appetite; fever 100 F. Numerous spirochoetæ were found in the chancre and in the eruptions on the body. Positive Wassermanns were obtained both by the original and Noguchi modified. The patient had no antisyphilitic treatment. On September 6, 1910, I gave him 0.4 gram of "606" intravenously. Three hours after the injection, a slight chill lasting ten minutes, followed by rise of temperature to 103 F, and joint pains. On the following day patient felt well but was weak. Temperature still 103 F. The spirochoetæ could be demonstrated with difficulty at the end of fourteen hours after injection. They had entirely disappeared from all the lesions in less than twenty-four hours. Three days later the sore throat had disappeared, while the eruptions required a few days longer to entirely vanish. In ten days' time no blemish on body could be made out. Repeated Wassermann

tests were made, which resulted in a negative reaction four weeks after the injection. On December 3, 1901, another Wassermann was negative. The patient has gained ten pounds and says he has "never felt better in his life."

Case II. F. J. G., age eighteen, white male, chancre (multiple) around corona, of five weeks duration. Numerous spirochætæ pallidæ found and the Wassermann reaction positive. No eruption or sore throat; slight glanular enlargement and slight fever. On September 10, 1910, 0.45 gram of "606" intravenously was given, which was followed by a slight chill one hour afterwards and fever 102 F. The next day he felt fine; temperature 100 F. The spirochætæ did not disappear until forty-eight hours. In four days the chancres had cleared up, and in ten days had cicatrized. The Wassermann disappeared in five weeks. Patient was seen on December 1, 1910. No relapse. Wassermann negative.

Case III. C. B. T., age twenty-three, white male. Chancre in July, 1910. Followed two months later by eruption on body. Hg. inunctions caused eruption to disappear in about three weeks' time. Mucous patch developed three weeks later on tonsil, size of dime, which failed to heal by inunctions and by injections of salicylate of Hg. Patient had lost twenty pounds and gave every evidence of being very little benefited by the present mode of treatment. Constantly had some fever about 100 F., and almost complete loss of appetite. In spite of the vigorous mercurial treatment, an active Wasserman was obtained using three different antigens. The Noguchi modified was also active. The spirochætæ were demonstrated in large numbers in the mucous patch, notwithstanding the mercurial administration. On October 20, 1910, 0.5 gram of "606" was given intravenously,

which was followed by a severe chill forty minutes afterwards. Temperature, 104 F. Some vomiting and diarrhœa. Severe headache the next day. Two days later felt perfectly well; no fever, and wanted something to eat. The spirochætæ did not entirely disappear until sixty hours after the injection. One week later the mucous patch had healed. Ravenous appetite, gained five pounds, and feels well. At the end of one month, November 20, 1910, the patient had gained fourteen pounds. Still in excellent health, good appetite, with the Wassermann slightly positive.

Case IV. M. O. Y., negro, age twenty. Typical chancre on scrotum and papillary syphilides all over body. Many spirochætæ were demonstrated, both in the chancre and syphilides. Beginning mucous patches on edge and base of tongue, but no spirichætæ were found in these lesions. Wasserman test positive. On November 1, 1910, was given 0.45 gram of "606" subcutaneously between the shoulder blades. The pain was very severe, requiring one-fourth grain of morphine that night. The aching continued for one week, with more or less severity. A very hard mass, three inches by two, was produced, which, from all appearances, would require incision. Finally the mass began to absorb, until now, December 4, 1910, it has reduced one-half in size, but is still quite tender.

The next day after injection the patient had some fever (99.4-5 F.), which went to 100.1-5 F. the next day. Six days later no fever was recorded. The spirochætæ were quite persistent in this case, not disappearing until the seventh day after the injection. The syphilides and chancre were slow to heal, but did so in two weeks. The Wassermann, on December 4, 1910, still persists, while the patient feels fine, gaining six pounds, and appears as if

nothing had ever happened to him save a few scars, and the site of injection, as mentioned above, being still very tender.

Case V. R. F., white male, age forty-five. Suffering from tabes dorsalis, duration, six months; Romberg, Argyll-Robertson symptoms, distinct ataxic gait, and distressing girdle and lightning pains. Treatment by Hg. and K. I., etc., was of no avail. Wassermann test positive. On November 6, 1910, 0.5 gram of "606" was given intramuscularly into the gluteal region, which gave rise to rather severe pain, extending down the entire limb. The pain lasted two days, which was bearable. No morphine given. Tenderness on pressure at site of injection persisted for two weeks.

A slight fever (100 F.) developed three days after the injection, which lasted two days and rapidly subsided. The girdle pains disappeared on the second day, and he has thus far felt none of his previous pains, and his gait is conceded by all who have watched him to have much improved. His eyesight and other symptoms have not shown improvement. Wassermann still positive.

Case VI. P. M., negro female, age thirty, admitted to the Vanderbilt hospital October 12, 1910, giving a very indefinite history of syphilis. Numerous ulcers were scattered over the body, arms and legs. The ulcers varied from one-fourth to two inches in diameter, and were gradually getting worse. An active Wassermann was present.

On November 7, 1910, 0.4 gram of "606" was given intragluteally, which produced some pain. She slept well that night without morphine. Complained of pain in the gluteal region for several days after the injection. Thirty-six hours after injection the temperature ran up to 101.3-5, which subsided to 99 in twenty-four hours, at which it remained

for seven days, and then shot up to 103 nine days after the injection. The temperature remained between 101 and 102 F. for about three days, and gradually subsided to normal. At the present time, December 3, 1910, the temperature runs a little irregular course, recording not more than one degree. The entire lesions over the body, arms, and legs gave evidence of a healthier look the second day after the injection. At the end of one week they were reduced to one-half their former size. Two weeks later practically every ulcer had healed, save one which was still quite large, although effort at repair had taken place.

Observations were made on case, December 3, 1910, with the unhealed ulcer unchanged. Wassermann reaction still shows, but not actively so. Undoubtedly another dose of "606" is indicated in this case, but the patient refused to take it. The injection of 0.4 of a gram was evidently not enough to kill all of the spirochaetae. Possibly the intravenous method would have been vastly more effective.

Case VII. This represents a malignant type of lues resisting all modern anti-syphilitic treatment, which was cured by a single injection of "606" intramurally. Patient: O. E. F., white male, age thirty-five, single. In March, 1910, noticed sore on scrotum near peno-scrotal junction. It was indurated, not painful or tender. No tendency to spread. The physician in charge applied calomel, and it readily healed. On May 1st, consulted Dr. R. E. Fort for a sore throat. On inspection, the throat presented a congested appearance, no patches, no ulceration, no glandular involvement, in fact, nothing that would lead one to suspect syphilis. A provisional diagnosis of pharyngitis was made and treatment instituted. Four days later returned to Dr. Fort's office with throat much worse, presenting some

ulcerations and mucous patches on pharynx and tongue. A general rash and some glandular enlargement. Syphilis was at once diagnosed and Hg. in the form of salicylate given intragluteally. At first the disease yielded to the treatment, but very soon it began to take on a very malignant and fulminating form, although the treatment was carried out persistently and systematically. His pharynx, tonsils, gums and tongue presented ugly, worm-eaten ulcerations, with considerable swelling, rendering taking of solid food impossible. Appetite very poor; nights restless; general feeling of lassitude and indifference. Consumed large quantities of whiskey, towards the last in order to obtain rest. On November 5, 1910, Wassermann test distinctly positive, in spite of the vigorous anti-syphilitic treatment. Several photographs were taken of a large ulcer in the corner of his mouth and on the side of his tongue. These will be shown in a later communication, together with other photos. Six months have now elapsed since he contracted the disease. During that time he has been incapacitated for work, and in spite of the vigorous anti-syphilitic treatment, was persistently growing worse until impending dissolution was not so very far distant. On November 11, 1910, 0.5 gram of "606" was given him intragluteally, which was quite painful, radiating down the lower limbs. Slept well that night. Two days later he stated that "I feel better already." Ulcerations looked cleaner and showed some healthy beginning granulations. Swelling previously marked had disappeared almost entirely. Point of injection a little tender, urine normal, resting well at night, appetite good, eating solid food, temperature normal. Ten days after the injection, all of the ulcerations had entirely healed in his pharynx, tonsils, tongue and at the edge of his

mouth. Teeth, which were previously very loose, are now firmly set and tight. Gums are hard instead of soft. Lassitude has given way to progressiveness, and taking an interest in business. Disinclination to take whiskey; voracious appetite; gained thirteen pounds in twelve days. Sleeps well. Urine and temperature normal. Wassermann reaction still present, since time has not elapsed for its disappearance, which usually takes from four to five weeks.

Case VIII. This case is rather similar to the above, but have not observed it long enough to warrant absolute conclusions. The patient had obstinate indolent ulcers as large as a quarter all over the body, mucous patches on the tongue and throat, nasal septum destroyed. Had been treated for seven months uninterruptedly with Hg. without result.

An injection of 0.5 gram of "606" was given. Only five days have elapsed since its administration, with the result that just as good effects will probably be obtained in this case as in case VII.

I have five other cases that have purposely not been reported, simply for the want of further and more extended study. Suffice it to state that uniformly good results have thus far been obtained in these unreported cases.

Conclusions.—It is impossible at this time to determine the actual permanent value of the drug, but certain deductions can be made from the large number of cases already reported throughout the civilized world. There is no doubt that this new remedy produces remarkable results in a surprisingly short time. In some desperate cases of syphilis a cure, temporary at least, follows a single injection; in many of these mercury and other anti-syphilitics had totally failed. The ques-

tion as to the permanency of the cure is not answered, and only time can answer it. In the meantime, it may be said with some confidence that Ehrlich has given us, by means of systematic research, a highly valuable medicament, and has per-

haps solved the problem, as far as syphilis is concerned, of intravital sterilization.

The author is under many obligations to Dr. Simon Flexner, of the Rockefeller Institute, for his kindness in supplying the drug for the treatment of these cases.

OBSERVATIONS ON 503 CASES TREATED WITH DIOXYDIAMIDO-ARSENOBENZOL (EHRLICH'S "606").

Dermatological Section of the Rudolf Virchow Hospital, Berlin (from *Deutsch Medical Wochshr*, 1910, No. 32).

BY DR. WECHSELMANN.

(Translated for the Journal Tennessee State Medical Association, by William Litterer, A.M., M.D., Nashville, Tenn.)

AFTER having demonstrated in my previous work, conjointly with the researches of Alt Schreiber, that in Ehrlich's dioxydiamido-arsenobenzol we had a specific of but slight toxicity and far superior to all remedies hitherto employed in all forms of syphilitic manifestations, it was deemed proper to test this preparation on a broader basis and within a few weeks I was able to collect observations on its action in 503 cases. We have seen in our first series how, almost without exception, enormous increase of bodily weight and pronounced influence upon the general condition took place and it is now further proven that these patients noticed a striking increase of vigor, often as early as the day upon which the injection was administered, or the day following; they expressed themselves as feeling strong enough to root up trees; engage in prize fights and the like and that sexual virility became heightened. This excitation may be well attributed to the action of arsenic. At the same time there was a distinct feeling of being rid of the disease, which often set in in the nature of a crisis and at a definite moment, even when the injection, as in the former cases, had often caused severe pain. It was noticed especially that throat troubles and lesions of

the mucous membrane of the mouth disappeared as if by magic in the first night after injection. This, however, is but a slight suggestion as to its value when compared to its effect upon the pains in the bones, which are often so intense as to drive the patient to distraction.

A very intelligent patient, having the disease for five years and had tried all the known remedies, had prominent swelling of the distal end of the ulna; skiagraph showed some periostitis and a deep-seated ulcer of the bone, filled with detritus; although the intragluteal injection caused severe pain, he stated that for the first time in five years he had complete rest during the night following. A second patient, with nodular syphilide of the skin, which had resisted thorough treatment by mercury and arsazetin, stated that for one and a half years he suffered from such violent nocturnal pains that he tried to get relief by most forcibly gnashing his teeth; he had previously severe and painful articular rheumatism, but this was no comparison to the tortures he endured from the syphilitic pains in the bones. The second night he was free from pain. A third patient, of Herculean build, had contracted syphilis and malaria in the tropics eight years ago;

he had received continuously antisyphilitic treatment with mercury and iodine and at one time with atoxyl, in spite of which he had such a painful swelling of the cranium that he injected three grains morphine daily. The first night after the injection the pains ceased completely, so that on the second day, without permission, he went to the horse races in Hoppegarten, and himself reduced his usual amount of morphine.

We can only explain this sudden cessation of pain at a definite hour by the destruction of the spirochetæ, for this peculiar occurrence of pain in the bones during the period of rest at night must be attributed to biologic activity of the parasites.

The effect upon ordinary syphilitic conditions was also as prompt and thorough as in our previous experience.

A classical proof of its specific action was seen in a miserable, new-born child, weighing 200 grams, which had to be kept in an incubator, being afflicted with the severest form of syphilitic pemphigus, causing gangrene of one of the ala nasi and the distal ends of the digits, besides edema of the face and lower extremities. This child was cured of its skin lesions almost completely in a few days by 0.15 (June 23) and died July 2. Autopsy revealed broncho-pneumonic foci with abscess of the lungs and luetic ulceration of the large intestine.

Plaques in the oral cavity give a classical test, and these disappear in from twenty-four to forty-eight hours, even when smoking is not stopped and without other care of the mouth. The same may be said of erosive chancres of the mouth and genitals, in which healing takes place in a few days, according to the size of the sore. In isolated cases leucoderma of the neck was cured within the same length of time, the white patches disappeared, a phenomena we had never before observed.

The most intractable form was the firm skin papule, which in this respect did not differ from that treated by the usual remedies.

Thus a primary lesion of the tongue healed promptly and completely in two to three days, the submental glands, for the most part, rapidly receded, while the co-existing papular syphilid, after three weeks, although retrogressing, will require another injection. In like manner a primary disease of the lip was cured, but eight days later a roseola appeared, after injection.

The most brilliant results were seen in the malignant and ulcerative forms. This difference is readily explained by the anatomical structure. Upon completion of the process of the characteristic infiltration, which is made up chiefly by plasma cells and the proliferation of fixed connective tissue with its traversing vessels surrounding the spirochetæ, the latter are destroyed by the remedy, degeneration and absorption of the reactive tissue changes take place; when, however, the vessels are plugged by endarteritis and ultimately the vasa vasorum displaced, as seen very beautifully in syphilis of the veins, the remedy cannot be transported by the blood-stream through these thrombotic masses which form a favorite nidus for the spirochetæ. It is probable that the leucocytes absorb some of this structure filled with the germ and convey some of the deadly material to the parasite and this may account for the disappearance of the hard papules of the skin after two or three weeks, but its effects are more apparent after an injection repeated about four weeks later. Perhaps this also explains the six refractory cases which I had under observation and which partially, but promptly yielded when subjected to the second treatment. It may be said, however, that three of these cases were treated by the same preparation

XXII, so that we assume that some slight differences exist in the effectiveness of the various numbers of that preparation. At the present time we cannot determine definitely whether certain forms of spirochetæ are proof against "606." We had originally feared such resistance, but this did not occur, nor was there any hypersensibility, as witnessed in eight cases in which the injection was repeated in from four weeks to three months. In addition to the above this is positively shown in the case of Willy D.¹

This patient, who for four years had been subjected to every form of treatment for a most severe case of syphilis, was almost completely cured by the rather small dose of 0.25 (April 13, 1910) of an extensive and deep-seated ulcer of the cranium, another at the inner aspect of the right upper thigh, also in the throat and complete destruction of the skin of the penis. While the cicatrices remained firm, that on the penis broke down after three weeks; the lower end of the radius, previously affected, became swollen and painful and a small necrosis formed at the hard palate, behind the first incisor tooth. A second injection of 0.5 June 27 at once brought on a cure, the pain in the bone ceased and returned to normal thickness; the head of the penis became covered by a firm, granular cicatrix. It is evident that in this case isolated foci of spirochetæ, which had not been removed by the first injection, readily yielded to the second.

Similar results were observed in three other cases in which a single injection did not effect a complete cure; it remains to be seen whether or not every diseased part has been reached. The same may be said of recurrences. Personally, I have not seen the latter to any extent, only once in

case No. 47, having plaques in the throat, very refractory, but promptly responded in two days upon the second injection, and two other cases cited further on. However, such instances have been observed by others and I do not doubt their occurrence. By the greatest endeavor I was able to keep track of only a few of these cases which had yielded the best results and of such others that remained under clinical observation for some other diseases. The final solution of the question of recurrence and actual cure must naturally be sought for later on, but a more exact view is desired at present in order to estimate their value. Before going into details upon my own observations, it is necessary to more closely define the nature of recurrence in syphilis since this is so markedly different from the recurrence of trypanosoma disease. In the latter, by giving a sufficiently large dose to produce complete sterilization, a full cure is established, while with an insufficient dose the trypanosoma disappear from the blood for the time being, but are seen again in a few days. They again disappear temporarily upon administration of larger doses, but finally are not further influenced by the remedy and cause the death of their host. The action of E. in syphilis is altogether different. The spirochetæ are not blood parasites; they probably traverse the blood-stream only once, as demonstrated by myself, Loewenthal and Canon, in which the examinations always showed negative results in contradistinction to the few positive findings recorded in the literature. The parasite lodges in the tissues, setting up tissue-reaction in some places, remaining inactive in others for various periods of time without clinical changes. Katzenstein, of my division, demonstrated certain sites of healed syphilitic efflorescences which had not shown any clinical symptoms whatever; Güzsmann found this

¹Cf. my publication in *Dermatol Zeitschr*, Obs. 1.

especially on the tonsils, and Pasini noticed the spirochetæ in other places years later, the virulence of which was affirmed by inoculation (Höffmann). Recurrences are accounted for by these retained foci of the germ, occurring in the form of one breaking out after another, until the syphilitic manifestations grow less and less, finally appearing as a single gumma; this also explains that form of corymbiform syphilide which consists of the appearance of numerous daughter foci in the immediate vicinity of the mother focus, distinctly showing that this circumscribed proliferative power of the spirochetæ is only a local one.

This was witnessed in the case of recurrence in a female patient with lichenoid syphilide (Obs. 33); April 19 received 0.3 by injection, with good results, and additional treatment with ungt. ciner. 6x4 on account of slight pigmentation. She presents herself now with a few single pigment spots on the skin of the abdomen and slight ptosis of the right eye; clearly a case in which some small portion of the germs had remained, but without new proliferation. Another interesting case is that of a child, Edna I., having general, dense, papulo-squamous and partly pemphigoid syphilide (Case 50, of illustration). This child received 0.015 by injection April 4 and 5, remained perfectly cured, and Wassermann's reaction, which at first was strongly positive, disappeared altogether until eight days had elapsed, when, without any clinical appearances, the Wassermann reaction again became positive and another injection of 0.02 was deemed necessary; quite likely an old internal focus was rekindled.

It is noteworthy that Lange, after injection in five cases of manifest syphilis with negative reaction noticed a positive one, which again disappeared later on.

Especially interesting is the case of an old woman suffering for years from an

ulceration of the tongue simulating carcinoma, but found to be a guama on histological examination; Wassermann's reaction was absent, but eight days after injection became positive and the ulcer healed completely; patient succumbed later from tuberculosis.

Neisser also reports an observation of primary effect with negative Wassermann reaction and says that when positive reaction takes place sterilization of the body has not been accomplished by the dose given.

It is more probable that the spirochetæ break down under the influence of the injection and that the characteristic material for Wassermann's reaction enters the blood-current and shows up in a new form, a sort of masked Wassermann reaction, which I have designated in other cases as "complementary plugging," a circumstance which speaks very highly for the specific value of Wassermann's reaction.

Several other cases of visceral lues are worthy of notice. In patient Li (No. 2) syphilitic ulceration of the rectum is entirely healed excepting a thin, dilatable annular constriction, which does not interfere with defecation and is the only trace of the previous severe disease process. Two other similar cases of stricture and one of syphilis of the liver will be reported later on. Icterus, which had existed for a long time, disappeared in ten days. In one case of syphilitic induration of the larynx, causing such difficult breathing and stridor that the patient was transferred to the clinical section of Dr. Hartmann for tracheotomy, the disease receded promptly, leaving only some moderate infiltration, which was treated by a second injection four weeks later. The threatened edema of the larynx did not occur. In two cases of cerebral syphilis the treatment was well borne; also in two cases of recent syphilis, and in an

other of luetic apoplexy, of several weeks' standing, there was distinct improvement. To illustrate how rapidly and effectually the remedy acts upon the brain may be seen from the clinical report of the following case, an intelligent patient, under close observation and in whom the eyes were constantly examined by my colleague, Fèhr.

E. H., 35, bookkeeper, infection in 1899, treated with Hg. injection for almost half a year. In 1904 diplopia on right side, paralysis of abducens, pronounced very severe, cured by prisms of 6.8 to 10 basis. April, 1907, the abducens paresis again set in and was treated in the same manner followed by improvement in his condition. In the spring of 1908 visual power of the right eye became worse, the left eye remained good. Pupillary stasis was diagnosed. Injection with iothin and sajodin was not well borne, the visual power of the right eye did not improve, indeed on closing the left eye newspaper print appeared indistinct and blurred. Treatment was now directed solely to the left eye, which was gradually growing weaker, and for one and one-half years this treatment was continued with unsatisfactory results.

June 21, on bilateral accommodation reaction, reflex pupillary stasis was found (Dr. Fèhr) with abducens weakening on each side, more so on the right; otherwise motility was good.

July 5, 1910, injection of 0.55.

July 8, 1910, pupil reaction and entrance of light partially.

July 10, 1910 (Sunday afternoon), did not notice any betterment in condition of the eye, but that same night (July 10, 1910) astonishing change took place. Early the morning of July 11 he was able to make out the printed letters of a newspaper and see quite distinctly the outlines of nearby buildings with the right eye.

July 11, 1910, distinct pupillary reaction to light.

July 15, 1910, pupil reaction very sluggish, but distinctly present (without light); fundus of eye normal.

Can see well with left eye and some distance with the right; close by reads newspaper and script, there is felt some strain upon the eyes and the contours of the type show a shadow. Marked improvement is noticed from day to day since the injection, July 5, and today is only the 17th.

Several cases of tabes showed rapid improvement in pupillary stasis. Indeed, cases which I had at first rejected as incurable have become very satisfactory in the last weeks of treatment; single symptoms, as already observed by Alt, show changes for the better in certain cases; thus the girdle sensation; the dull headache, sometimes lasting for years; the intense intercostal neuralgia, and in one patient such weakness of the muscles of deglutition as to make the swallowing of dry substances very difficult, also existing for years. In another instance the diminished sexual potency was so re-established that unreasonable daily intercourse was had. In a case of weakness of the bladder of eight years' standing, causing continuous enuresis upon desire to urinate, a single injection was followed by disappearance of the trouble. We cannot, for certain, state whether in these cases there is a true objective and permanent result, or only a suggestive one, and that the highly exciting and roborant action of the remedy plays a rôle. The same is true of the initial stages of progressive paralysis, as testified to by the patient or his relatives. In advanced cases no improvement is looked for. But it is to be remembered that in paralysis, and especially that of tabes, in which reparative processes are not possible, we have present systemic sclerosis and other

syphilitic lesions of the vessels, gummata and meningeal induration, and that pseudo tabes is especially met with under the atypical forms of tabes.

No accidents were encountered with regard to the remedy. One old paralytic patient died several days after injection in a typical attack. Injury to the nerves of sight were not observed, although a few cases with impaired vision were treated. Three patients who had received the atoxyl, and two others the arsazetin treatment; all severely ill, at their own request were given the remedy, having previously been made acquainted with the possible danger therefrom. In the cases which had received the injection by the intragluteal method, like in other medications administered in this way, two patients had slight, and one had moderately severe peroneous paresis, all now getting better. It may be stated that many patients had constipation for the first few days, which was relieved by enemata, not cathartics; this atony of the bowels lasted three days in one case. Some patients suffered from nausea and one had vomiting, which, however, soon subsided. Prof. Lockemann found traces of arsenic in the vomitus, 3-5% of .001. No injurious effect upon the nervous system were noticed, even in the epileptic cases. Detrusor paralysis of the bladder, especially, never occurred and in ninety cases examined on various days after the injection, no exaggeration of patellar reflexes were found. Two results, which at first were supposed to be due to injury from this arsenical remedy, were definitely explained otherwise.

I injected three paralytics intragluteally on June 26, in the institution of my colleagues, Drs. Arndt and Nawontzky. Only July 2 one of these was seized with high fever and a redness, size of palm of the hand, appeared at the site of injection. The fever continued the next day at the

same time a general morbilliform eruption with conjunctivitis set in. Pulse was good, general condition not at all alarming and urine was free from blood and albumen. The case was thought to be one of arsenical poisoning (exanthem), but this idea was abandoned in view of the fact that the other two also had the same appearances, and all three rapidly recovered, since eruptions from arsenic are accompanied by parenchymatous changes in the various organs with consequent prolonged adynamia, even where ultimate recovery takes place.

In explaining these cases we are forced to attribute the same to an infection of the skin by bacteria, which these unclean paralytics convey from one to the other, in spite of disinfection and the application of iodine to the parts involved. In this respect we find much better results by giving the injection below the scapula, as is now done in our technic.

A very threatening impression was experienced in the case of a colleague.

July 4 he was given an intragluteal injection for syphilis of the bones; the first two days passed off well, but for five days following the evening temperature went up to 38 degrees and the leg was very painful. July 11, a. m., 37 degrees; p. m., 39 degrees. July 12, a. m., 37 degrees; p. m., 40 degrees. July 13, temperature between 40 and 41.1 degrees, pulse accelerated, small, but regular; intense thirst and at times inability to evacuate the bladder, which, however, disappeared without the use of the catheter. I thought it might be a case of arsenical poisoning, although the symptoms did not warrant such a conclusion, the urine being free from albumen and blood. I wanted to make an incision at the site of injection in order to evacuate any deposit. During the day heavy sweating set in, the pulse and general condition grew better, and on July 14 the temperature dropped to 40.5,

39.7 and 39.2 degrees; July 15, 37.2 degrees and in the evening again rose to 39.6 degrees, then dropped to 35.6 degrees by crisis and remained normal. July 14 lacunary angina was discovered and July 15 flat erosions on both palato-glossal arches, which healed very readily. Patient recovered fully in from two to three days, was discharged, felt perfectly well and remained so. Traces of arsenic were found in the urine by Prof. Locke on the ninth day, which corresponds to the normal excretion of this substance.

Here, also, the whole clinical picture does not agree with that of arsenic poisoning, as we had at first supposed, which according to Meyer, Göttlieb and others pertains to organic as well as inorganic combinations, and producing altogether different symptoms. The rapid improvement and complete recovery certainly contradict this. Very likely, however, the incorporation of this new remedy into already existing bacterial invasion causes a violent reaction, as noticed in our second case of angina, in one of Cory 3A and in

another of recent otitis media with a temperature of 39 degrees lasting several days and a general feeling of severe illness. It is possible that in such cases there is an abnormal splitting up of the arsenic radicles, since it has been observed in certain individuals. Among other diseased conditions one case of malaria was favorably influenced and remained free from further attacks. An inoperable lympho-sarcoma was not changed by the remedy, likewise a case of psoriasis which the syphilitic subject had. In one case of simple chronic lichen, the itching disappeared. Five women at full term were given 0.45 without injury to the child and Glück has observed one similar case.

Summary — Dioxydiamido-arsenobenzol has retained its therapeutic value in almost all the further cases of the various forms of syphilis. In parasyphilitic affections a trial of this treatment is justified to a certain extent. Up to the present no serious deleterious effects have been noticed.

A BRIEF REPORT OF 109 CASES OF SYPHILIS WHICH WERE TREATED WITH "606."

Reprint from the *Münchener Medizinischen Wochenschrift*,
Number 31, 1910.

BY DR. ALEXANDER GLUECK OF SARAJEVO.

(Translated for the Journal Tennessee State Medical Association by Howard S. Jeck, Ph.B., M.D., Nashville, Tenn.)

THROUGH the intervention of Hofrat Dr. Kobler, Geheimrat Professor Ehrlich of the dermatological division of the Bosnia-Herzegovinan National Hospital, sent over for trial purposes some tubes of "606." My highly esteemed chief, Primarius Dr. Hugo Zechmeister, turned over to me the conducting of the experiments and observation of the patients, for which I shall express to him here my most heartfelt thanks.

On April 21st of last year the first injection was made and the new remedy has since been tried in 109 cases. Before I refer to the results of the trials I should like to go a little into the technique of the injections, which differs little enough from that practised elsewhere.

On the bottom of a fairly wide glass vessel of about 30 c. cm. capacity the powder, which is of a sulphur yellow color is spread; 1 to 1½ c. cm. methyl

alcohol is added, which dissolves the powder for the most part, but which leaves a part of the powder on the bottom of the vessel in the form of resinous-like little clumps. These are pulverized as much as possible by means of a glass rod and 10 c. cm. of sterile distilled water are added. To the perfectly clear solution which results normal sodium hydroxide is carefully added. Thereupon a thick cream-like whitish-yellow precipitate forms, which on further addition of sodium hydroxide changes to a less dense brownish yellow precipitate. After complete disappearance of the whitish color, the addition of sodium hydroxide is stopped and distilled water is added up to the "20 c. cm." mark, which is previously fixed.

Injections were made intramuscularly, deep into both gluteal regions with an asbestos piston syringe containing 10 c. cm., the syringe being armed with a canula 10 cm. long. The injections themselves are tolerably painful, yet differing according to individuals. The pain is much diminished by preparing the solution in the manner described above. The pain for the most part disappears immediately after the injection only to return, especially when infiltrations form, in two or three days, and then often lasts three or four days. In the 109 cases infiltrations worthy of mention were observed seven times and they, after one to two weeks, disappeared without any consequences.

Proceeding on the hypothesis that the painfulness is in part at least caused by the relatively large quantity of fluid injected into the dense muscular tissue, I tried subcutaneous injections in the abdominal wall in four cases. From this method of application I have again departed, since the pain was hardly less severe and in all four cases there formed at the sites of injection painful infiltra-

tions almost the size of an apple, which annoyed the patients a long time after the disappearance of all huetic symptoms. In none of these cases was there suppuration of the infiltration.

The injections were, as a rule, accompanied by a little rise in temperature, which appeared in six to twenty-four hours, and usually would not go beyond 38 degrees C.; in a few cases it became a pronounced febrile temperature, once even 40 degrees C. The fever disappeared in two to eight hours. In many cases the temperature rise, as also the pain, appeared not until the second or third day. In three cases the rise of the body temperature was introduced by a severe chill (dose 0.3 gram and 0.4 gram); in another (a very weak individual, dose 0.5 gram) there appeared for two days constant profuse perspiration and somnolence. These manifestations disappeared to give place to a euphoria.

Especially to be noted as sequelae of the injections are skin eruptions, which appear in the form of urticaria and erythema. Five patients (three women and two men, dose 0.3 gram and 0.4 gram) showed wheal formations over the whole upper surface of the body sixteen to twenty-four hours after the injection. In one patient the site of the wheals corresponded to pigmented places on the skin, which had remained from a pustulous exanthema. After the disappearance of the urticaria the pigmentations faded rapidly. The four other cases belonging to this group showed no exanthema before the injection. Two other cases are interesting in that after the injection (dose 0.4 gram) a scarlatinous erythema was observed after eight and eleven hours. This disappeared after twenty-four hours, but in its place there remained a typical macular exanthema which had not previously existed and which after three and seven days, respectively, vanished completely.

In spite of the ever increasing doses which we employed, we did not notice any other troublesome accessory phenomena in our almost wholly undernourished material. I should like to emphasize in particular that disturbances on the part of the heart were never observed and that in patients who were not beyond suspicion as to tubercular changes in the lungs was there ever an unfavorable change in this process. On the contrary, however, the syphilis and the tuberculosis also were favorably influenced (disappearance of catarrh and cough irritation); hence an injection in chronic tuberculosis is not contraindicated unless a quite marked diminution in the resistance of the body at times interdicts it.

It should be mentioned that in two cases of pregnancy, recently syphilitic, injections of 0.4 gram were made. The first, seven months pregnant (para 2), states that on the day of the injection the foetus executed some very vigorous movements which, however, were not perceived at all on the next day. It is now the twelfth day after the injection and the foetal heart sounds are no longer demonstrable. In all probability the influence of the injection upon the foetus in this case was deleterious. The second patient, a primipara, three months pregnant, complained of no pain or trouble of any kind during her stay of eight days and up to the present time, which is three weeks since her departure, we have heard nothing from her.

Trials with a dose of 0.3 gram were begun, but this appears to be too small for many cases. Now we use 0.4 and 0.5 gram. Not only the permanency, but also the rapidity of the cure depends upon the size of the dose. The larger doses have not given rise to any particular accessory manifestations. The pain and rise in temperature remain within the limits of our experiences derived from a 0.3 gram

dose. On the other hand, the disappearance of the symptoms and perhaps also of the spirochaetae was quicker. In three cases with hypertrophic papules, the size of hazelnuts, on the tongue, after sixteen hours they were completely flattened out. Spirochaetae were no longer demonstrable (dose 0.5 gram). There were treated in all seventy-one males and twenty-eight females, between the ages of twelve and seventy years.

The state of nourishment of the patients was generally bad, and to this circumstance we ascribe the relatively large number of severe secondary and tertiary symptoms.

Six cases with chancre, but without general manifestations, were treated. The course in all cases was fairly similar. After twenty-four hours even, you could plainly see a softening and clearing up of the floor of the ulcer. One case, in which there were two hard chancres with slight suppurative decay on the remains of a circumcised prepuce, was injected with 0.5 gram about 5 o'clock in the afternoon and the next day by 8 o'clock in the morning complete softening and beginning formation of new skin were well started. It's true that the swelling of the inguinal glands did not disappear as quickly as the chancres themselves; however it could be observed even on the second day that there was a significant decrease in size, and after five days there was a complete disappearance.

Only in one case of chancre, with simultaneous general manifestations, and exanthem papules on the scrotum and anus, all of which disappeared in eight days, did there exist an enlargement of the glands on the right side for as long as five weeks. This, however, vanished completely after that length of time. Besides this case, three others with chancres and simultaneous secondary symptoms came under our notice. One of these cases

with chancre of the lip will be described more in detail later, since it was apparently a failure. Both the other chancres, one on the glans and one on the prepuce, disappeared on the second and third days, respectively. These cases were previously treated locally.

Among the women treated there were three in whom besides the general symptoms, the primary affection was demonstrable in the form of erosions of the cervix. In two cases 0.4 gram and 0.5 gram were given. The general symptoms disappeared quickly, while the erosions in all three cases took about three weeks for a cure which is recognized by the law.

Among the eighty-one recent syphilitic cases there were ten with a macular exanthemata undergoing treatment. These exanthemata did not heal quite similarly. In the greater part of the cases—eight—they disappeared completely on the third day, after it was noticed that they were turning pale for days previous. Both the others healed a bit refractorily, since one disappeared on the fifth day and the last only on the eighth day. In all ten cases we had to deal with small or large macular syphilides of the skin of the trunk and extremities. I could not observe a local reaction (Herxheimer) for the reason, perhaps, that the examinations of the patients were too infrequent and the reaction too evanescent. Eight maculo-papular syphilides went back after three to five days without leaving any traces behind. In one maculo-pustular and two pure pustular exanthemata the pustules showed a plain reduction and that they were drying up sixteen hours after the injection, and disappeared completely in two cases after five days and in one case after eight days, leaving behind pigmentations.

Especially interesting was a case of lichen syphiliticus aggregatus in which, after an injection of 0.4 gram of "606,"

the desquamation and the disappearance of the otherwise so obstinate syphilides was to be noticed already on the next day, and on the seventh day the manifestations had completely disappeared, so that the patient was discharged on the eighth day after the injection. (There were papules at the same time on the scrotum.)

Quite similarly the pustular exanthemata of the hairy scalp and beard healed; they were diagnosed in nine cases. In all nine cases they disappeared in five to nine days, leaving behind pigmentations (dose 0.3 and 0.5 gram).

Of our eighty-one cases fourteen showed *raucedo vocis syphilitica*, in which were demonstrable by means of a laryngeal mirror a purely erythematous redness in part and in part ulcerations and papules on the vocal cords. Where ulcerations were wanting, the voice as a rule, was completely clear on the next day following the injection and the redness had vanished. The ulcerations required a somewhat longer time for healing, yet the voice was generally clear on the fifth day. Only in one case (twelve-year-old boy: 0.2 gram) it took nine days for a complete cure. With the clearing up of the voice, the local process in the larynx suffers a retrograde change. In place of the ulcerations, there remained perfectly smooth, somewhat reddened scars.

Of twenty-seven cases of inflammation of the pharynx most of them disappeared on the second to the fourth day; two only after seven days. The quick disappearance of plaques on the tongue, tonsils and soft palate is striking. In all seven cases in which such efflorescences on the mucous membrane of the tongue, lips, mouth and pharynx were to be found the former disappeared either at the same time as, or earlier, than the inflammation of the pharynx—at the latest on the fifth day after the injection.

The healing process of the condylomata

on the skin of the scrotum and penis is quite rapid. Twenty-nine patients offered such manifestations and I should like to mention a case in which, after an injection of 0.4 gram "606," the greatly hypertrophied, weeping papules covering the whole scrotum, made place for a tender rose-red skin on the fifth day after the injection, and which after three more days showed perfectly normal relations. In all cases a drying up of the papules could be demonstrated in twenty-four hours after the injection.

Condylomata *ad anum* behave somewhat more refractorily toward "606," especially when we have to deal with large and not unusual conglomerations of hypertrophic papules. However, those remaining separate dry up and disappear more slowly than the same efflorescences *ad scrotum*. Of twenty-two cases belonging to this group, the lesions in fifteen cases disappeared in seven to eleven days; in the others they disappeared in seventeen days at the longest. Local conditions and the size of the tumors seem to play an especially important rôle.

The papules on the female genitalia behave similarly. The separate ones disappear in five to six days. On the other hand, in one case, with groups the size of one's fist on the labia majora, there remain still after fourteen days swellings of considerable size. However, in this relatively short time the latter have decreased in size doubtless to a third of the original. (In this case no spirochaetæ could be demonstrated after three days). Of the cases of this group, eleven underwent our treatment. Of rare localizations of the condylomata we had two cases of these efflorescences between the toes, one in the umbilicus and two in the external auditory canal. All disappeared in the same time as the efflorescences on the scrotum.

I should especially like to mention with

emphasis two cases of specific eye disease. One case was a woman twenty-five years of age, who was treated for the same eye disease about a year ago. Besides miliary gummata of the skin of the gluteal regions, there was a keratitis parenchymatosa of the right eye, which showed a significant clearing up of the cornea after two days. After twenty-one days this clearing up was not complete and the patient left the hospital. However, a good part of the visual power had returned and the patient was very much pleased with the functional result in an eye which was only sensitive to light previously. In the second case, besides a papulo-macular exanthema, there were condylomata on the scrotum and anus, an iritis syphilitica with great photophobia, posterior synechiae and marked ciliary injection. The eye was totally incapable of function. On the second day after the injection the photophobia disappeared completely and on the fourth day the eye showed a perfectly normal condition with the exception of a synechia in the outer upper quadrant, which only resolved after eight days. Here the action of 0.4 gram was aided by the application of atropin crystals three times, for dissolving adhesions. However, this result, which cannot be attained in so short a time and so perfectly with ever so energetic a mercurial treatment, is to be quite particularly noticed. It is true that another case with bilateral iritis was only cured after lasting three weeks, leaving behind synechiae.

Of rarer localizations of the syphilitic virus there presented itself to us recently a *psoriasis palmarum et plantarum*. It is now three days after an injection of 0.5 gram "606" in this case. The papules on the palms of the hands and soles of the feet have already shown a reduction to half the original size. There remained, in part, only desquamating skin areas.

I should like to call attention to the fact quite briefly that the disappearance of the general glandular swelling does not always go hand in hand with the disappearance of the other signs. In a large number of cases they have disappeared after eight to ten days. In other cases they soften, but persist, and the swellings remain a longer time, only to gradually, but quite surely disappear. In one case twenty-four hours after the injection of 0.5 gram I examined the fluid taken from a gland and could demonstrate no spirochaetae. Naturally this one examination justifies no kind of conclusions.

Before I pass on to the discussion of cases of tertiary syphilis I should like to call attention to a case of lues maligna with a rapid febrile course (capillary bronchitis demonstrable). Four and a half months after the infection large ulcers, half the size of the palm, developed on the legs, covered with thick reddish-brown crusts. On admission there was a temperature of 38.4 degrees C. Two days after an injection of 0.4 gram the ulcers were perfectly clean and now, fourteen days later, part of them are hardly as big as a two-heller piece [about the size of an American penny] and part are completely healed. In the beginning, as in all other cases, we did not employ local treatment; later after the ulcers had become clean a 5% silver nitrate ointment was applied to accelerate the healing process.

Very interesting is the influence of "606" upon tertiary syphilitic affections. Here, too, I should be inclined to ascribe to the largeness of the dose a quite marked influence on the brevity of the process of healing. One sees this plainly in the treatment of gummata of the skin. In twelve cases of this form, six were treated with the dose of 0.3 gram. The length of time necessary for healing was of varying duration and fluctuated be-

tween twenty-one and forty-seven days. In one case there were especially large ulcers of the leg. As for the rest the ulcerations in all cases were quite significant. Six recovered with 0.4 gram in six to twenty-one days. Two which received 0.5 gram were able to be discharged in five days. It's true that the spreading of the process which was not so extensive in the last two cases, effected by the better resisting power of the patients, may have played a not insignificant rôle. However, a large part of the more favorable courses must doubtless be ascribed to the larger doses.

A gonitis luetica dextra, complicated by periostitis and gummata of the skin, disappeared in six days without a trace left. In this short time also, the two gummata of the size of five-kronen pieces [dollar size] which were situated laterally on the abdomen, healed. The tibial pain had disappeared on the third day, the bone tumescences remaining.

Decaying gummatus nodules of the hard and soft palate healed with scar formation of the ulcers and disappearance of the infiltration in six to ten days (four cases; dose 0.3 and 0.4 gram).

An infiltration of the hard palate, which showed fluctuation and probably would have led to perforation of the palate, disappeared in five days so that the palate remained intact. The nasal tone of the voice which had already started, disappeared completely in this short time. A deep gummatus infiltration and ulceration the size of the German "thaler" [a trifle larger than an American dollar] on the left tonsil was healed without leaving a trace in eight days after a dose of 0.4 gram.

In three cases of gummata of the larynx the injection was directly responsible for saving life. In all three cases we had to deal with an advanced process with infiltration of the whole anterior

wall of the larynx, whereby the larynx externally had assumed a ball-shaped form. Tracheotomy had to be done in one of these cases. On the next day both the others showed a retrogression of the stenosis symptoms and the difficulty in swallowing. The tumors caused by the perichondritis syphilitica did not disappear completely. Hand in hand with the disappearance of the subjective troubles the local infiltrations and ulcerative processes also vanished. Of course, that there can be no *restitutio ad integrum* in such cases goes without saying. In one of these cases the symptoms increased after a month because of scar tissue contractures. The Wassermann reaction was negative.

The Wassermann reaction for obvious reasons could be carried out in only twenty cases. In five cases, thirty-five to forty days after the injection, it was negative and was the same in all these cases without regard to the dose. In the fifteen remaining cases, which were tested eight to twenty-one days after the injection by means of the Wassermann reaction, the latter was still positive.

Of great weight is the quick disappearance of the spirochaetae in twenty-four to forty-eight hours. Almost every case with secondary manifestations was examined to that end. In one chancre, after sixteen hours, no spirochaetae could be demonstrated (dose 0.5 gram). In two others the examination did not show a negative result until the fourth day (dose 0.2 and 0.3 gram).

Of all these cases described above, not one has returned for treatment for a relapse up to the present time. The period of observation is yet too short to draw from it any definite conclusions. When, however, you consider of eighty-one recently syphilitic patients, of whom half live in Sarajevo and who have at their disposal no other special treatment than

the hospital treatment, that not one has returned, then from this the conclusion must be drawn that the occurrence of relapses to the present time belongs to the rarities.

On the other hand, we have two failures¹ to report. In a case of a disintegrating chancre (the size of a small apple) of the upper lip, with macular exanthema and general glandular enlargements, the chancre, in spite of an inunction treatment, had not disappeared completely after fifty-seven days, but remained, reduced to one-third of its original circumference. After an injection of "606" the exanthema and the general glandular enlargements, even to the cervical glands, had completely disappeared in a short time. Eight days after leaving the hospital, however, the patient returned with an angina specifica and plaques on the tonsils. Besides the chancre, still unchanged, there was a macular exanthema of the forearm. Upon a second injection of 0.4 gram all the manifestations, including the infiltration on the upper lip, had disappeared without a residue in seven days. In spite of the return of the general symptoms I do not believe this case is to be regarded as a relapse, since the Wassermann reaction, which was never completely negative, speaks against the latency of the case.

A case with large hypertrophic papules *ad anum* in which a part of the dose of 0.3 gram, in itself small, was lost during the injection, was not cured and after a stay of three and a half weeks was discharged—"Wassermann" positive.

It ought to be mentioned here that in cases previously treated with mercury, no

¹In a case, which has not been considered in this publication, with chancre, angina specifica, plaques on the tongue, there appeared on the fourth day after the injection a papular syphilitide of the skin.

appreciably quicker disappearance of the luetic symptoms could be proven.

In the dermatological division, "606" was used twice in advanced paralysis progressiva and once in atrophy of the optic nerve. To the present time there are no results in all three cases (dose 0.5 gram).

During the compilation of this work there were in addition eight cases treated with "606," four of them with the dose 0.6 gram. These, as the three cases with paralysis and optic nerve atrophy cited above, are not included in the 109 cases of this report and will be reserved for further publication. I should yet like to mention just here a case of icterus syphiliticus in which, after the injection, the jaundiced color of the skin is disappearing markedly.

The head of the division for internal diseases, Prof. Korczynski, informs me

that in two cases of cerebral hemorrhage due to syphilis, with symptoms of paralysis, quite a significant improvement was produced in two weeks after injections of 0.4 gram of "606." Concerning these and other cases of his a detailed publication on the part of the above named gentleman will appear.

In conclusion I should like to express my thanks to Geheimrat Ehrlich for so kindly sending us the large quantity of the preparation which we needed.

Note: In three of our cases of syphilis we had a complication with psoriasis vulgaris present itself. The rash of the fairly diffused desquamating areas in all three cases disappeared completely in fifteen to twenty-one days after an injection and without local treatment (dose 0.4 and 0.6 gram).

SUBPHRENIC ABSCESS—PATHOLOGICAL REPORT.

Report of a Case in Which Rupture Into a Bronchus Occurred—Operation—Recovery.

BY A. B. COOKE, M.D., NASHVILLE.

SUBPHRENIC ABSCESS, known also as subdiaphragmatic abscess, pyopneumothorax subphrenicus, etc., deservedly ranks as one of the gravest of abdominal diseases. Until the publication of the illuminating work by Maydl in 1894, it was regarded as both rare and of obscure origin, and the literature upon the subject was extremely scant. Since that time, however, many cases have been reported and the condition may now be said to draw its chief interest from the difficulties surrounding its clinical recognition.

A clear idea of the anatomy of the upper abdomen with special reference to the relations of its contents is necessary to an

understanding of the subject. It will be recalled that the lower or abdominal surface of the diaphragm is closely invested by peritoneum and presents a double concavity into which upon the right side is accurately molded the superior surface of the liver, upon the left side the stomach and spleen. Posteriorly the kidneys, suprarenal bodies, duodenum and pancreas are also in relation with it. Surgically, the portion of the abdominal cavity containing the above named viscera is bounded above by the diaphragm, below by the transverse mesocolon and externally by the structures forming the abdominal parietes. Inflammatory adhesion of the great omentum to the anterior ab-

dominal wall may completely shut off this arbitrary subdivision of the peritoneal cavity so that suppuration connected with any of the organs mentioned will extend upward and localize itself immediately beneath the diaphragm, thus forming a subphrenic abscess.

A further subdivision of this space into two approximately equal portions is affected by the falciform ligament of the liver which is attached by its convex border to the under surface of the diaphragm and to the anterior abdominal wall slightly (one inch) to the right of the mesial plane, reaching almost to the umbilicus below. The tough, fibrous structure of this sagittal partition effectually prevents communication between the right and left compartments of the subdiaphragmatic area, and establishes a definite internal boundary for an abscess originating in either side. Abscess of the right wing would therefore result from disease of the liver or gall bladder, right kidney or suprarenal body, or from appendicitis; while abscess of the left wing would result from disease of the stomach, spleen, duodenum, pancreas, left kidney or suprarenal body, or left lobe of the liver. In the former case (right-sided abscess) the inferior boundary of the abscess cavity is usually formed by adhesion of the omentum and transverse colon to the anterior abdominal wall; in the latter (left-sided abscess) by inflammatory connection between the stomach, omentum, and left lobe of the liver, and the abdominal wall.

Subphrenic abscess has been classified as extra-peritoneal and intra-peritoneal. Theoretically, this is a perfectly natural and correct division and as such worthy of mention. But clinically, no such differentiation is possible, and the regional classification above indicated is, for all practical purposes, greatly to be preferred. The vast majority of cases are

intra-peritoneal. Extra-peritoneal cases are much more frequent upon the right side on account of the anatomic location of the appendix.

The disease is found upon the left side more frequently than upon the right, a fact readily accounted for by the relative frequency of perforative lesions of the stomach and duodenum. Perforation of the stomach occurring near the pylorus may result in abscess of the right side; but that such a result is exceptional is evident from the report¹ of twenty-seven cases of gastric origin occurring in St. George's Hospital, twenty-three of which, or more than 85 per cent, were confined to the left side. The most usual form of abscess is located above and in front of the stomach in the left cupola of the diaphragm.

ETIOLOGY—While usually primary as a suppurative process, subphrenic abscess is always to be regarded as secondary to some antecedent pathology. The most frequent source of the infection is the alimentary canal — stomach, duodenum and caecal region. When it results from peri-caecal inflammation the abscess as a rule is extra-peritoneal and is practically always located upon the right side, the infection in these cases traveling upward in the connective tissue behind the ascending colon, or between the layers of the mesocolon when this structure is present. Next in point of frequency as a source of the infection are inflammatory affections of the gall-bladder and bile passages.

Among the numerous other recognized causes are abscess of the liver, due to hydatids, the ameba *hystolitica*, and the various types of infection, particularly when the superior surface of the organ is involved or encroached upon, inflammatory affections of the spleen and pancreas.

¹W. Lee Dickinson in Allbutt's System of Medicine, Vol. III, p. 570.

peri-renal suppuration, etc. In a few isolated cases necrosis of contiguous bones (ribs, vertebrae) has been credited with the causation of subphrenic abscess. Traumatism involving any of the organs named, especially when it is followed by the escape of blood into the peritoneal cavity, should also be mentioned as a possible etiologic factor.

It is generally agreed by authorities that invasion of the subphrenic region by infectious material from the pleural cavity is of extremely rare occurrence. "Any supposed cause of thoracic origin must be accepted with caution."¹ In empyema

W. Lee Dickinson in Allbutt's System of Medicine, Vol. III, p. 570.

when the pus escapes from the pleural cavity it is much more likely to burrow downward behind the peritoneum and form a psoas or a peri-renal abscess. It is a familiar clinical observation, however, that pleurisy is an early and frequent complication of subphrenic abscess by extension of the infection from below. Considered in the light of these facts it will be noted that the case herein reported possesses certain unusual and most interesting features.

SYMPTOMS AND DIAGNOSIS—The disease is always insidious in its onset and is very apt to be overlooked. In the beginning the symptoms as a rule are exceedingly indefinite and, apart from the history of the case, are often impossible of correct interpretation. Respiratory embarrassment, *i. e.*, dyspnoea, is one of the early and constant symptoms. This may be due either to pleuritic involvement or to inability of the lung to expand fully on account of the accumulation and pressure beneath the diaphragm. Pain may be mild or severe. As a general thing it takes the form of constant pressure with dull aching in the side affected. The intercostal spaces do not bulge as in pleural accumulations, but there is an evident

fullness and prominence of the whole region involved with considerable tenderness on pressure, more pronounced over the intervening spaces than over the ribs. The general condition of the patient is septic. Chills may occur with marked regularity, but the febrile movement is usually of only moderate severity. Sweats, sallowness of the skin, loss of appetite and other symptoms of sepsis are generally observed.

In the diagnosis the history of the case is all important. The true nature of the condition is so often obscured by the thoracic complications present that nothing else than a careful study of the history will render differentiation possible, even after the most painstaking physical examination. On inspection the side affected appears abnormally prominent with obliteration rather than projection of the intercostal spaces, and tenderness on palpation is elicited over the whole region. Percussion gives a flat note over the area of the accumulation which sometimes reaches as high as the second rib or interspace. This sign occasionally results in confusion, especially when a pleural effusion complicates the case, on account of the presence of gas immediately beneath the diaphragm. In such cases there is from above downward an area of exaggerated tympanitic resonance over the apex of the lung, an area of dullness or flatness, another area of tympany, and a second area of dullness. The presence of gas in the subphrenic region may be due to the communication between the abscess cavity and the stomach or some portion of the intestinal tract, or, as suggested by Douglas and others, to the action of gas-forming bacilli. This phenomenon is much more frequently seen in abscess of the left side than of the right side, owing to the usual origin (*i. e.*, stomach) of the trouble in the former. Physical examination of the other viscera

will generally show in right-sided cases displacement of the liver downward, in left-sided cases displacement of the heart upward and to the opposite side.

The leukocyte count is always of corroborative value in settling upon a diagnosis. In doubtful cases it may be necessary to resort to exploratory puncture. Under proper antiseptic precautions this procedure adds little or nothing to the longer of the disease and should be employed earlier and oftener than has been the custom in the past.

PROGNOSIS—The prognosis of subphrenic abscess is grave to the point of hopelessness without surgical intervention. With rare exceptions the cases left to Nature's management terminate fatally. Theoretically, the pus might be expected to find a safe exit occasionally by rupturing into some portion of the intestinal tract or by discharging upon the surface of the body. Practically, no such happy results are reported in well authenticated cases. Instead, when rupture of the abscess occurs it follows the natural law here as elsewhere by seeking the direction of least resistance, which is upward through the diaphragm. When this occurs it is always a late event and is very apt to take place at or near the center of the cupola where the lung is most likely to be adherent. But rupture into the lung by no means justifies a favorable prognosis since a fatal septic pneumonia instead of free drainage is almost certain to quickly ensue. (Here again attention is directed to the subjoined case report.) In the rare cases in which rupture into the pleural cavity occurs rapidly fatal pyopneumothorax practically always supervenes.

The prognosis in a given case may, therefore, be said to depend upon the promptness with which the true condition is recognized and surgical intervention resorted to. Surgery offers the only rational hope in this disease. In Korte's

series of sixty cases submitted to operation the mortality rate was 33.1-3 per cent.² Maydl's statistics of seventy-four cases show a mortality rate of 47.2 per cent.² It is safe to say that no such excessive death rate should or does obtain at the present time, though no recent statistics of a like number of cases are available for comparison.

It is interesting to note in passing that in both sets of statistics above referred to the largest number of cases were of pericecal origin—45 per cent in Korte's and 20 per cent in Maydl's. In the light of the accepted teachings of today upon the subject these proportions seem astonishing—almost incredible.

TREATMENT—Two routes are available for reaching and draining the abscess: (1) By free incision along the costal margin of the side affected; (2) by the transpleural route after resecting one or more of the eighth, ninth or tenth ribs in the posterior axillary line. The latter is the route usually chosen both because of the uncertainty of diagnosis in many cases and because of the recognized necessity of draining the pleural cavity in many others.

The only point of special interest connected with the operative technic is as to the best means of avoiding infection of the pleura in uncomplicated cases. Suturing of the diaphragmatic and costal layers so as to enclose a circular or oval area through which the incision is made is recommended by some, but usually proves unsatisfactory because the tension and respiratory movement prevent the sutures from holding. Probably the most reliable method consists in securely walling off the pleural cavity on all sides with sterile gauze before opening into the abscess. Then by first introducing a full-sized

²Von Bergmann's System of Surgery, Vol. IV, pp. 189 and 190.

trocar and partially evacuating the pus the wall of the abscess cavity (*i. e.*, the diaphragm) may be seized with clamps and drawn out through the incision, thus obviating contamination. A large-sized drainage tube, preferably double, should be securely sutured in position and the protecting wall of gauze left undisturbed for two or three days. When adequate drainage is provided the abscess cavity will contract with remarkable rapidity. If deemed advisable, daily irrigations with mild antiseptic solutions may be employed.

However clearly the symptoms and physical signs may point to subphrenic abscess, the diagnosis should invariably be verified and the pus definitely located by aspiration before the operation is begun. Neglect of this precaution has resulted in embarrassing and dangerous mistakes even at the hands of the most competent surgeons.

CASE—J. McC., male, aged 28, merchant, has always lived in the vicinity of his present home in Northern Alabama. Family and personal history without significance, except that for past few years he has been rather too fond of indulgence in "the flowing bowl." During the early spring of 1909 while on a fishing trip in Florida he contracted a severe cold and on returning home developed what his attending physician, Dr. J. W. Roggess, regarded as a severe attack of la grippe. While sick with this trouble he had considerable pain in the liver region, having several severe attacks of apparently typical gall-stone colic, accompanied by jaundice and enlargement of the gall bladder. Later he developed pneumonia of the right lower lobe and was critically ill for several weeks.

I was called to see the patient at his home on June 2, 1909, especially to pass upon the advisability of a gall bladder operation. Upon examination I found the gall bladder symptoms had in large measure subsided, but the lower lobe of the right lung was still consolidated, though it had been three weeks since the onset of the pneumonia. Regarding the pulmonary condition as of more importance than the gall bladder complication, I advised against opera-

tion at that time. That the diagnosis of pneumonia with delayed resolution was correct is proved by the fact that within a week following my visit resolution set in by crisis and the lung rapidly and completely cleared up. The patient spent the larger portion of the summer in Michigan, where he recuperated rapidly.

On October 13 he was brought to Nashville. Just before returning from his summer vacation he had a sharp recurrence of pain vaguely described as located in the right side. Soreness persisted with irregular chills and sweats and gradual loss of strength. When he reached Nashville he was taking from one to two grains of morphine a day, and was quite weak, but still able to walk about. His physician, who accompanied him, stated that he had no cough on leaving home, but that the sulphurous smoke from the locomotive had seemed to irritate his air passages and he had begun to cough considerably while still on the train. That night for the first time he expectorated copiously, the sputum being thin, purulent-looking and blood-stained. During the succeeding forty-eight hours the amount of this material thrown off was enormous—not less than three or four pints and probably much more. If lying down he was able at any time upon request and with slight effort to spit up an ounce or more.

EXAMINATION—The whole right side of the chest below the fourth rib was somewhat prominent, with effacement of the intercostal spaces and general tenderness on palpation. The tenderness extended well down over the abdomen, but neither the gall bladder nor liver could be felt on account of the gaseous distension due, doubtless, to deranged secretions resulting from the morphine. Percussion showed hyperresonance over the apex of the lung extending to the third interspace, below which there was absolute flatness. The diagnosis of empyema with rupture into a bronchus seemed clear to me, and I so stated, at the same time remarking that I was not able to eliminate gall bladder complication. The patient was sent to the hospital where the next day he was seen and carefully examined by Drs. E. G. Wood and J. A. Gaines in consultation. My diagnosis of empyema was fully agreed to and operation advised and accepted.

OPERATION—October 16th I resected four inches of the right ninth rib in the posterior axillary line and on opening the pleural cavity was surprised, and for a moment dismayed, to

find it entirely free from any evidence of disease. A structure which proved to be the diaphragm bulged into the incision and, after locating the pus with an aspirating needle and carefully walling off the pleural cavity with gauze, this was freely incised and an immense quantity of pus evacuated. A double drainage tube was securely sutured in the wound and the patient put to bed in good condition. During his convalescence the abscess cavity was daily irrigated with normal salt, boric acid, permanganate or formalin solution, the last named seeming to give the best results. The patient left the hospital in five weeks, having gained some twenty pounds in weight and with only a small fistulous tract and a scanty discharge persisting. A letter from his physician, received in February, states that, in spite of repeated "sprees," the fistula had entirely closed, and the general health of the patient seemed perfect.

Specimens of the pus expectorated and

also of that evacuated at the operation were turned over to Dr. William Litterer for laboratory examination. It is certainly a most interesting and unusual fact the only organisms found were the pneumococci in pure culture, in both specimens. Speculation as to the exact origin of the infection and its mode of access to the region involved might prove entertaining, but would scarcely repay the time so spent. The most plausible theory would seem to be that there was a gall bladder infection of pneumococcic origin to which the subphrenic abscess was secondary.

I wish to express my grateful acknowledgments to Dr. Litterer for the painstaking care with which he has prepared the following pathologic report:

PATHOLOGICAL REPORT.

BY WILLIAM LITTERER, M.D., NASHVILLE.

THE reddish semi-grumous and tenacious material exuding from the wound of incision was collected into a perfectly sterile bottle. Smears were made which showed an enormous number of diplococci resembling in their morphology and tinctorial reactions the diplococcus pneumoniae. They were found to be usually in pairs appearing like a couple of triangles with their bases close to each other and surrounded by a more or less well defined capsule. This triangular appearance has been usually described as being lance-shaped. Hence the familiar term *Micrococcus Lanceolatus*. Smears were also stained by Welch and Hiss method which easily demonstrated a definite capsule. They were likewise positive to the Gram's stain.

Both aerobic and anaerobic cultures were made. The aerobic cultures consisted of (1) plain; (2) glucose agar; (3) rabbit blood agar plates and slants. Milk

and Loeffler's blood serum were also employed.

The anaerobic media comprised glucose agar and rabbit's blood agar plates and slants. In sixty hours there appeared on the aerobic glucose, blood and serum agar, a very few small opaque, white, circular pin-point colonies. In the anaerobic media the bacterial growth was not as far advanced as in the aerobic, but eventually apparently the same number appeared as recorded on the oxygen cultures. The paucity of colonies as well as their extreme slowness of growth was somewhat surprising in view of the fact that enormous numbers of micrococci were discerned in the original stained smears. One platinum loopful of the original material only yielded fifty-six colonies, whereas in an average of one-twelfth oil immersion field in the stained preparation more than forty micro-organisms could be made out. Since there are thousands of such fields

to one platinum loopful, one can readily see that there were enormous numbers of micro-organisms failing to manifest themselves on the various culture media subjected to a variety of influences. This inability on the part of the bacteria to reproduce can be ascribed to their extreme attenuation or absolute dissolution. Proof of the marked attenuation, even of the surviving members, is shown by the following experiments: Subcultures on blood agar were made from the original cultures and one-tenth of a C. C. (estimated about 100,000,000 bacteria) was injected intraperitoneally into a rabbit. This inoculation produced no apparent effect on the rabbit. Two rabbits were each injected with one-half C. C. of the bacterial emulsion twenty-four hours old (500,000-000 bacteria). One was inoculated intravenously, the other intraperitoneally. Both rabbits survived the inoculations, but were rendered quite ill, particularly the one receiving the intravenous dose. Two other rabbits were each inoculated with one C. C. of the twenty-four hours' bacterial emulsion (1,000,000,000 micrococci). Intraperitoneal injection was given one, while the other received the intravenous inoculation. In sixty hours the rabbit receiving the intravenous dose died. The other rabbit died in eighty hours after inoculation. Both were autopsied only a few hours after death. The micro-organisms in both instances were recovered from the heart's blood and peritoneal cavity. Stains were made which showed well defined capsulated diplococci by the Hiss and Welch method. In twenty-four hours there appeared typically characteristic pneumococci colonies on some of the special media prepared for its identification. Subcultures were made from these and one-tenth of C. C. of a twenty-four-hour bacterial emulsion (250,000,000 cocci) was intravenously inoculated into a rabbit. Death resulted in

fifty hours. The animal was posted soon after and the micro-organism, recovered from the heart blood and peritoneal exudate. Cultures on special media were prepared and again run through several rabbits. Each succeeding inoculated rabbit would succumb to the infection quicker or with fewer germs. This demonstrates that the successive inoculations of bacteria into susceptible animals is one of the most effective procedures in establishing marked virulence to a given micro-organism. The virulence engendered in this particular pneumococcus was phenomenal. At first a rabbit could scarcely be infected by injecting one billion living pneumococci into the circulation, but further successive inoculations of rabbits each time increased the potency, until finally a little more than a thousand micrococci were sufficient to kill the animal in thirty-six hours after intraperitoneal inoculation. No effort at further virulence was attempted. Undoubtedly the potency of this micro-organism could have been markedly augmented by further animal inoculations and by the collodion sac method.

In order to more thoroughly establish the identification of this micro-organism, as being identical to the pneumococcus of Frankel, I endeavored to determine the behavior of its growth upon certain special culture media. Hiss has devised a special medium as a means of differentiation between the pneumococcus on the one hand and the streptococcus on the other. This special medium is called the Hiss inulin agar which consists of (1) peptone (Witte), (2) agar, (3) sugar-free broth (neutral), (4) inulin, (5) solution of litmus. In this medium the pneumococci in twenty-four to ninety-six hours at 37.5 degrees C. showed red colonies against a blue background while the streptococci produced no such change. At first the freshly isolated pneumococcus

failed to cause fermentation, but after passing through several rabbits, very evident red colonies appeared. Another special medium that is of value is the one recommended by Rosenow. It is prepared by adding .3 to .5 C. C. of sterile defibrinated blood to a tube of melted agar cooled to 45 degrees C. The virulent pneumococci when inoculated upon this medium produced colonies which grew larger than on other media, and they also formed a distinct green color, due in all probability to the production of an acid, probably lactic. Surrounding this distinct green color will sometimes be found a narrow zone in which the blood corpuscles are destroyed. The streptococci and other micro-organism rarely ever produce a like picture. On potato it grows with difficulty. It does not liquify gelatin, and it is non-motile.

The above behavior of this micro-organism establishes beyond the peradventure of a doubt that it is identical with the Frankel's diplococcus pneumoniae.

PNEUMOCOCCUS SEPTICAEMIA.

It is now customary to regard "lobar pneumonia" as a general pneumococcic infection with the lesion in the lung as but one of the manifestations. It was at one time supposed that the finding of the pneumococcus in the blood was of ominous significance and pointed to a fatal termination, but as a result of the more recent researches, this view is no longer tenable. Extensive series of investigations of the blood in cases of lobar pneumonia during life have conclusively proved its bacteremic nature even in mild cases.

Rosenow¹ found with the proper technique, using large quantities of blood, 5 to 7 C. C., that the pneumococcus can be recovered from the blood in practically all cases of croupous pneumonia, and he

states that this method may be employed with advantage for diagnosis in obscure cases of the disease.

Prochaska² isolated the pneumococcus in all of fifty cases examined and believes the invasion to be a constant condition in this affection.

Wolf³ recovered the micro-organism from the blood in a large percentage of cases even after crisis. Pearce and others have obtained similar results.

LOCALIZED INFECTIONS.

The pneumococcus must be held responsible not only for the causation of the majority of cases of lobar pneumonia, but for a number of other pathologic processes and conditions. Among the most common of these are inflammation of the pleura, pericardium, endocardium and meninges (Jordan). Middle ear infection due to this micro-organism has been often noted. There can be added to these inflammatory conditions a long list of others, viz., enteritis, conjunctivitis, arthritis, subphrenic abscess, and a great variety of other affections. According to Jordan there appear to be few, if any, organs or tissues that are not under some circumstances subject to attack. Five years ago a case of pneumococcus arthritis came under the care of Dr. W. H. Witt⁴, of this city, in which I tested the fluid bacteriologically and recovered typical Frankel pneumococci. Up to that time only six cases had been reported in

BIBLIOGRAPHY.

¹Rosenow., "Journal of Infectious Diseases," Vol. I, 1904.

²Prochaska, "Osler's Modern Medicine," Vol. II, p. 556.

³Wolf, "Journal of Infectious Diseases," Vol. III, 1906.

⁴Witt & Litterer, "Pneumococcus Arthritis—Report of a Case," New York Medical Journal, Jan. 7, 1905.

the literature. Since then several other cases have been observed.

The various infections noted above may occur either as independent and primary affections or as complications and sequels of pneumonia.

In the case here discussed about one ounce of the expectorated material was also submitted to me for examination. So far as could be ascertained it was identical both macroscopically and microscopically with that obtained from the wound of incision.

REPORT OF CASE OF SUBPHRENIC ABSCESS.

BY J. J. WALLER, M.D., OLIVER SPRINGS.

SUCH cases as that reported by Dr. Cook, while not very common, are nevertheless very interesting from both a diagnostic and therapeutic standpoint. My experience with such is limited to one case, that of a young middle-aged man who was treated by another doctor for supposed typhoid fever. Whether the diagnosis of typhoid was right or not, there was an attenuation or prolongation of the trouble. My knowledge of the case began some days after the first doctor dismissed it. The general look and condition of the patient rather reflected doubt upon the diagnosis previously made—typhoid fever—though it is entirely probable that a typhoid could have had a sequela in a subphrenic abscess. When first seen the case presented the appearance of a mild type of fever, probably some kind of infection or toxæmia. The temperature was from 100 to 101 degrees; the pulse 90 to 100; tongue nearly clean; appetite fair. The patient felt somewhat weak and indisposed. He was able to turn about in bed, talk fluently, and did not impress me, upon the whole, as very sick man.

On first examination, I hastily concluded that some of the typhoid infection yet remained, and he was treated accordingly for about one week. After that time no improvement seemed to be manifest. So I made a dry-slide blood test

and found some secondary anaemia, no malaria, but leucocytosis mostly on the part of the neutrophiles. Then I began to doubt the typhoid, or, if it were typhoid, what inflammatory complication I had.

Within a day or two some bulging appeared in the right lumbar region and extended toward the front; in two days more it was more prominent, when I aspirated and found pus. I made a free opening under cocaine and drained about a pint of pus from the region above the right kidney back of the liver and under the diaphragm. The gauze and afterward a rubber tube was kept *in situ* several days for drainage, which were finally removed as no more drainage occurred, and the little bit of fever went down. It seems that all would be over in a reasonable time by proper rest and diet. So the frequency of my visits was discontinued.

In a week or ten days I was called by telephone and informed that my patient had severe pain in his right side above the liver, was coughing, and could not breathe freely. At once was suspected another abscess breaking through the diaphragm into the pleural cavity and thence through the lung. On my arrival I found the patient in the condition above described and also considerable dullness in the lower portion of the right lung. My opinion then was that another abscess or an undrained portion of the one previous-

ly mentioned was working its way through the lung and that within a few hours pus would appear in the expectoration. I gave them my opinion and went away. They informed me afterwards that during that night my expectations were fulfilled, and he began to cough up pus and blood. On seeing the patient again I found him coughing up freely and easily and the dullness in the lower lung region vanishing away. He was becoming more comfortable all the time and made an uneventful recovery. He is now well.

The early history of these cases is confusing, and they may be overlooked, for local signs may not guide you till bulging, pain and dullness, together with disturbance of respiration, attract your attention to the subphrenic region. A blood examination is most useful in this class of cases to exclude typhoid and malaria and direct a search for the cause of the leucocytosis.

DISCUSSION OF THE PAPERS OF DRs. COOKE AND WALLER.

DR. FRANK A. JONES, Memphis:

I regret that I did not arrive in time to hear all of Dr. Cooke's paper on this subject. With reference to subphrenic abscess, those of us who have seen these cases find they are perplexing with reference to diagnostic signs, because they can simulate so many conditions, and because there may be many causes. First, we have to go back clearly and critically to the diseased process that leads up to the conditions that are confronting us. The question must be asked, did the abscess arise below the diaphragm or above it? This diaphragm is a very dangerous fence-line that gets the abdominal cavity into fuss with the thoracic cavity. The doctor's case is quite peculiar. In most cases the history will give us some clew with reference to the condition confronting us. If it is the consequence of a ruptured condition from pyopneumothorax or from empyema, with rupture through the diaphragm from above downward, we would be more apt to have a history of previous pleurisy, we would be more apt to have a history of a pneumonic con-

dition, with pain and cough, and other symptoms referable to the pulmonary tree. If it is a subphrenic abscess as a consequence of gall-stone or gall-bladder disease, or a perforating duodenal or gastric ulcer, or an appendiceal abscess, we would be apt to have a previous history of gall-stone disease, of gastric ulcer, of duodenal ulcer, or of appendicitis. So I think, without taking a broad view of the question, we would naturally ferret out as nearly as we can the original conditions which operated in the development of the condition we encounter. I remember once mistaking a case of pyopneumothorax for subphrenic abscess. The case was diagnosed as pyopneumothorax because it had a great many of the physical findings of that condition. There was a succussion sound; there was a tympanitic note; there was evidence of flatness of certain areas, which meant that the flat note extended well up above the thoracic cavity rather than downward. But post-mortem examination showed a subphrenic abscess, with gall-stones subsequent to empyema of the gall-bladder. These subphrenic abscesses, as I have said, are perplexing to any of us. They frequently simulate and have, you might say, hyperphysical findings of conditions referable to the abdominal cavity and conditions without attracting attention to the thoracic cavity. There is a kind of midway ground which physical diagnosticians have been wont to describe to the upper quadrant of the abdomen as the region of romance. Pick up any book you may, and with reference to the pulmonary valve and heart, that is the region of romance of the chest. Now, this upper quadrant of the right side, the romance of the thoracic and abdominal cavity, I do not look upon as romance, but in my experience it is a region of tragedy because all of the cases of subphrenic abscess I have seen or encountered have promptly died. I say it is the region of doubt and a region of tragedy, and to me there is very little romance connected with it. Many of us in our efforts to make a diagnosis and to reach a conclusion as to the condition, know that it is a region which produces a very perturbing and perspiratory state of mind. In other words, it makes us sweat to reach a conclusion as to what the condition really is. There is no book which will give you a classical description of how to differentiate pyopneumothorax from subphrenic abscess and other conditions. The text-books will tell you that where we have a gastric or duodenal ulcer to deal with it is most frequently found on the

left side. In my experience, where there is a gall-stone condition, or a gastric ulcer, it is the reverse. Subphrenic abscess may simulate gastric ulcer, but in cases of gastric ulcer perforation has usually been found on the right side. (Time called.)

DR. S. MEEKER, Memphis:

I had a little experience of that tragedy to which Dr. Jones has referred in a case that came under my observation about a month ago. The patient was a negro, who came to me with pain over the region of the spleen, and also some tenderness over the stomach. I diagnosed the case offhand as being due to malaria. The spleen was somewhat enlarged. I put the patient upon a course of thorough purgation, and sent him home. He was all right for a few days apparently and then got sick again. He had to lay off. I was called to the house this time. I found the patient with fever, and he had had chills. He had a chill at the beginning which led me to believe it was malaria. As the case went on he had septic chills and fever every evening with quick pulse, tenderness over the stomach, and tenderness also over the left kidney. There was some bulging over the stomach and displacement of the heart upward. I tried to make out a pleurisy, but could not. I called in consultation and we decided it was a subphrenic abscess and thought it was best to make an exploratory incision. The day the negro was taken to the hospital for operation he developed pleurisy sounds on left side. We

went ahead, made an exploratory incision, and all we found was a somewhat enlarged stomach. The spleen, liver and kidneys were normal. On aspiration we drew off a sero-sanguinous fluid from the pleural cavity. The patient having a diaphragmatic pleurisy present we didn't feel justified in raising the stomach to take a look at the pancreas. To the sense of touch it felt normal. The patient went on having septic fever and chills. The blood count showed polymorpho-nuclears of 80 per cent. The wound healed by first intention. The pleurisy cleared up; but on the eleventh day thereafter the patient died. Two days before he died he developed hiccough, which kept up until he died. I held a post-mortem that night and found that the diaphragm on the pleural side was somewhat inflamed, but there was no fluid in the pleural cavity. I went on down and found an abscess on the pancreas as large as my two fists. That was my experience with subphrenic abscess.

DR. COOKE (closing):

I have nothing to add except to say that the case reported by Dr. Waller was very interesting to me, and from the description I should say it was a case of extraperitoneal abscess of perirenal origin, and if I am right in that conjecture, it is an unusual direction for an extraperitoneal perirenal abscess to burrow, that is, upward toward the diaphragm, and finally into the pleural cavity. I am glad he put the case on record. There is nothing like it in literature.

A PLEA FOR A HIGHER STANDARD OF MEDICAL EDUCATION.

BY AMBROSE M'COY, M.D., JACKSON.

THERE is today no question of more vital importance to the medical profession than that of medical education. It is of vast importance not only to the medical profession, but also to the people and the country at large. It is a matter which affects not only the present day, but one which will tell for years to come. Much has been written in medical periodicals in the last few years about the standard of medical education in the

different States. The American Medical Association a few years ago established what is known as the Council on Medical Education.

It is the duty of this Council to visit and investigate the different medical colleges throughout the country and report on the standard of teaching of those various colleges. Not only is this Council empowered with the authority to visit and examine into the standing of the

medical schools, but it is also its duty to advise as to the ways and means by which the standards could be elevated. A wonderful amount of good has already been accomplished by the Council and with its present organization and its list of able, effective and progressive membership much more lasting good and advancement will be brought about.

The Council should have the hearty support and co-operation of medical men, of medical societies and medical schools everywhere.

Every one in a position to know acknowledges the need of elevating the standard of medical education in this State, and indeed in the entire South, and we hail with delight those measures that are calculated to bring about the desired improvement. What are the means and measures to which we can look to bring about the changes? They are twofold.

The character and grade of the students that enter our numerous medical colleges each year seeking a medical education constitutes one side of the case. The character and system of teaching and training on the part of the medical institutions of learning constitute the other side of the matter. We contend that too many men enter the medical schools who have had too little previous training in the colleges and high schools of the country before admission to the medical schools.

Too many enter without having a sufficient primary education.

There are those who enter medical schools every year who know nothing whatever of the Latin, to say nothing of a knowledge of the Greek, or German. In fact, we have some who possess almost no English education.

I believe, too, it would be well to look more closely into the moral character and standing of those entering medical schools. I know that it would improve

largely the personal bearing of the student-body and the profession. The better the material we have out of which to make doctors, the better doctors we will have.

On the other side, there are many improvements that the Council has suggested in the way of teaching, such as lengthening the time of attendance at the medical colleges—requiring a four-years' course before graduation.

Many medical colleges in this country have made wonderful improvement in their system of teaching by devoting more time and work to clinical teaching and clinical lecturing and bedside training of the student. The Council even advocates and advises that students after graduation should take one year or more in hospital service. This every one must know will result in a world of good and send out physicians who will be far readier to contend with the obstacles and the things that they meet in the practice of their profession than those who do not have such training. Post-graduate courses are also a mighty means for polishing and equipping the student and fitting him for the work of his profession. I admit that after all there is a great deal in the man, a great deal in the individual himself. There are some who will succeed wherever they go. There are some who will succeed regardless of the school or college that turns them out, but still we should as a profession contend and work to the extent of our ability for the advancement of our profession and for the establishment of a higher standard of medical education in this State.

There is today a disposition all over the country to advance this standard and we must wake up and keep pace with the spirit of progress that is now so manifest everywhere throughout the land.

This is an age of the mightiest progress. Wonderful age of advancement all along

the line. The sciences, the commercial interests, the agricultural interests and in fact everything is now moving up to higher standards and it is only meet that the medical profession and medical sciences should keep step to the march of progress that now characterizes the age and times. The times demand it, the public welfare demands it and most of all suffering humanity demands it.

To accomplish these great results, however, will require a co-operation of all concerned. There must be a unity of purpose and there must be a consort of action of all the profession.

The profession at large must be on good terms with the schools and colleges, and the schools and colleges must be on good terms with the Medical Council, and the medical schools and the profession at large must do what they can to uphold and support and assist the State Board of Medical Examiners. They must be on friendly terms and each have the help and co-operation of the other.

After all, your State Board of Examiners is the only power that stands between the people and the quack and charlatan who is ever ready to feed on the unsuspecting public. It is the only power that keeps out from other States those that are not qualified as they should be to engage in a legitimate practice of medicine.

Last of all, the public should be taught the necessity of this higher standard of medical education. Teach them the good to be accomplished. It is the people that rule, and when they are taught the blessings that will follow the elevation of the standard of medical education they will not only demand it, but will, knowing that the public welfare requires it, make laws effective to carry out such a purpose.

No law is effective, however wholesome and beneficial it might otherwise be, un-

less the popular public sentiment is behind it.

The medical profession is a sacred and time-honored one and in all the ages has had for its main object the relief of human suffering, and there is to my mind no standard too high for it.

DISCUSSION ON THE PAPER OF DR. M'COY.

DR. HERMAN HAWKINS, Jackson:

I consider this one of the most important papers that has been read before this body. Ordinary papers take up the daily work we have to do, both for our benefit and for the benefit of our patients. But this paper looks to the future and has to do with what is very essential, namely, the foundation we lay for the future to build upon. If we will examine the catalogues of our medical schools we will find that the curriculum has been extended; that it now includes so much it is difficult for the management of these schools to find the time to drill students in the various studies demanded. The field is constantly broadening. The men who go to medical colleges should be provided with at least a measurable amount of preliminary education, otherwise they are seriously handicapped in their work all the way through, and it has a double effect; it reflects on the schools that send them out, because they cannot in the time at their disposal acquire a literary education and at the same a medical education.

The essayist has brought very forcibly before us the efforts of the representative body of the American Medical Association in this line. As an organization, it is making a very successful effort to promote the interests of the profession, and we should back them up when it is insisted that matriculants of medical colleges shall at least have a preliminary education equivalent to a high school diploma. I do not care to take up more time, as there are others present who are better prepared to discuss this matter than I am, but I am impressed with the fact that this is one of the most important subjects that can be brought before us, and it deserves our consideration. It is one we cannot avoid. We must meet it.

DR. JOHN A. WITHERSPOON, Nashville:

I want personally to thank Dr. McCoy for his paper, especially for his complimentary references to the work of the Council on Medi-

cal Education. I was appointed one of the members of that Council at its inception. I have worked constantly all over this country now for seven years studying the conditions of each section of the country and what the demands of each section of the country were. It might surprise some of you to know that in the last seven years I have visited and talked on medical education in twenty-eight States in this Union. I have had the subject of medical education very much at heart. I feel that the Council has done honest, sincere work. I have been associated with men from Harvard, from the University of Michigan, from the University of Chicago, from the University of Pennsylvania and from my own university, and I can say that there has never been a disposition to do anybody any harm on the part of any member of the Council. On the contrary, there has always been a disposition to give everybody a fair show, and in every way to let the people know that the time had come, especially for our own beloved Southland, that our people deserved just as good doctors and our schools were just as competent and our professors just as capable of turning out men who understand disease and who can practice medicine in a scientific way as any other place on God's green earth. And I believe that. I do not believe the South can afford to stand in the attitude of apologists. I feel that the work done is everlasting, and I feel, furthermore, that we are awakening in the minds of the people the importance of elevating the standard of medical education, all of which is going to redound to the welfare and clientele of physicians. It matters not how scientific the course may be; it matters not how much perfection can be attained by the laboratory course, or how much can be done behind closed doors in laboratory work, after all the great mission of the doctor is to save human life and to alleviate human suffering. The practice of medicine today requires a better education than it did twenty years ago. It requires men of more studious habits; it requires men who have a good rudimentary education to properly understand it, and I do not believe any fair-minded man can say that a high school education is too much for a doctor to begin the study of his profession: nor do I believe that any fair-minded man can say that a four years' course divided between the laboratory and between practical work is too much to fit a man for his life work. And that is all that the Council on Medical Education has demanded; that is all that the

American College Association demands, over which I have the honor to preside. They only ask a proper preliminary education for the study of medicine be taken; that a popular curriculum be carried out to teach medicine, and when this is adopted in every section and becomes universal, then and not until then will the people be protected. Then we shall be able to have reciprocity among the States, and not humiliate an old practitioner in the neighborhood who has practiced medicine and saved many lives when he goes to another State by asking him to pass a useless examination. First, this work is to establish a proper understanding not only from an educational standpoint, but to properly train men to take in and know medicine. The second is to establish a universal curriculum, at least one that can be made to meet the approval of every section of the country. By doing this then a practitioner in Tennessee can go to New York and practice his profession, or a practitioner in Boston can come to Memphis and practice. When we do that, gentlemen, then we will have a wide-open door for the profession, and every medical man ought to feel that he is entitled to reciprocity among his professional brethren. (Applause.)

DR. R. G. HENNING, Memphis:

I did not expect to say a word on this subject. Of course, as Dr. Witherspoon has just expressed himself, and others, I would like to see the standard of medical education raised as much as possible. The only fear I have is that the standard is going to be placed beyond the reach of many worthy men. When we speak of a high school education and a four years' medical course, that is simple enough. But is that all? If that is all, why is it that from sixty to eighty medical colleges in the United States are barred or will be barred from admission to the American College Association? I would not have you believe for one moment that I do not place proper value upon the elevation of the standard of medical education. I appreciate it. I believe it ought to be raised, but from a financial standpoint, is it possible for some of the worthy men to reach that standard? To go and get an education requires money and time. It requires many a Southern man years of study and years of hard work. Possibly he will reach twenty-five years before he can enter a medical college; then he has four years more, and then probably three or four years more before he acquires sufficient

practice to support himself and his family, if he is married. That makes him about thirty-five. What I am afraid of is that the curriculum is growing so rapidly that we in the South cannot meet the pace. I believe that some of the best material out of which to make a doctor is to be found in the brains of men who are financially not able to spend that much money. We are not rich. We have made rapid strides, and if we go back a few years and see what we have done within the past few years, go back to the days of reconstruction, and see what we have come to up to this time, gentlemen, it seems to me no school, except one that is endowed, can possibly hold out.

Now, I am connected with the Memphis Hospital Medical College. I have been connected with it since the days of its inception. I taught there today, but exactions are made of that college that, it seems to me, it is questionable whether we can ever reach the standard or not. We would like to. We are striving and tending that way. The Dean of the Memphis Hospital Medical College was the President of the Southern College Association for a number of years and he made application to the other association, but as yet we have not gained admission. We are trying to find out what is necessary, but it is very hard to learn. There ought to be a minimum standard fixed, then we will get to it if we possibly can. We will strive to reach the higher standard as early as we can.

It has been said that there are about 600 and some odd patients to every doctor in the United States, but that there ought to be 2,000. There are too many doctors, it is true, but, gentlemen, a doctor located in different parts of the country could not attend to 2,000 people to save his soul. I believe I have done as much work in the medical profession as most men. I have worked as hard as any man, and I know it is a difficult task to attend 2,000 people. While I quite agree with the gentlemen that we should raise the standard of medical education, I fear that in the South we cannot do it as

rapidly as some of you would like to have us do. Few of us in the South have the money with which to do it, but as soon as we can we will try to reach the standard that seems to be fixed today. But I repeat that it seems an utter impossibility to do so from a financial standpoint at present. Give us the minimum requirements and a little time.

DR. G. G. BRIFORD, Memphis:

I appreciate higher education as much as anyone. I have been connected with educational institutions, more or less, all my life, but the great bar to advance in medical education in the South is the preliminary or fundamental education of the country school. Our education there is not enough. It is not in keeping with the higher education. Boys come to us and enter our medical schools who have not trained minds, and we have to reach down and lift them up. They are not capable of comprehending what we say to them in our lectures. If possible, we should advance the standard of preliminary education in our schools, and then when these boys enter medical colleges with a good rudimentary education they will comprehend what we say to them. I am satisfied that we have as good minds in the South as anywhere; but we know that the boy of the North is admitted to the schools earlier than the boy of the South, and for that reason he has a better fundamental knowledge than our children of the South get. We, as Southern men and as educators of the South, are behind in this respect. We need definiteness of education in our public schools. We need to strive for some ideal. Take our schools here in Memphis, when the boys graduate therefrom they are not fitted for anything. The way to advance medical education is to commence at the bottom and push these young men up. Our men, when they get through with their college courses, generally do well. It is our fundamental education that has been neglected and should be brought to the front in the consideration of higher medical education.

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SOME STATE NEEDS.

IN this day and time when the State is regarded as in a measure responsible for the health of its citizens, there are necessarily increased demands to be made of the State. Tennessee is in need of several important additions to the machinery of her State Board of Health, and it is quite probable that special legislation will be asked for along these lines at the coming meeting of the Legislature. In view of this we will call attention to some of the features which should receive the consideration of the profession, and through the profession, the ear of the Legislature, while at the same time the public should be educated to expecting and requesting these improvements and additions at the hands of its legislative body. The time for simple theory concerning the many diseases which confront the public health of the State is passed, and today the profession is looking to and depending upon actual experimentation along the line of public health calculated to give the best results in handling and preventing the spread of all contagious diseases. In order that those to whom the State must look for direction and supervision of the public health may be prepared to meet its

demands, it becomes the duty of the State to furnish to its Board of Health the necessary facilities to do the actual experimental work along the lines contemplated. The State has already made provision for the inspection of foods and drugs, and under the present management, which has been both economic and efficient, it has taken rank amongst leaders in this particular line of supervision of public health. This department is a most important one, and should be fostered and encouraged, and as far as possible, it should be extended in its influence in order that it may meet all the demands made upon this particular branch of the work. The State Board of Health needs a Hygienic Laboratory, in which to study by practical methods those questions which relate to general sanitary science and from which good can be assured for the benefit of the public. Special circulars of information, which could be placed in the hands of county, city, and other local Boards of Health, for distribution among the people where such information is frequently much needed but not accessible, could be issued by this department. This would prove a very helpful adjunct to the Board

of Health and would make much more efficient the information so much desired at times in the smaller communities. Sanitation is a science, and men especially trained for this peculiar department are necessary in order that cities and towns which are contemplating the construction of water supply plants and sewer systems could have the advice of a competent Sanitary Engineer to consult with them and advise them concerning these particular public utilities, for the reason that the public health is directly dependent upon them. Towns and cities frequently find themselves confronted with a contaminated water supply by reason of the fact that they did not have made an investigation to determine whether the source of their water supply was contaminated or was liable to contamination. A contam-

inated water supply for an ordinary town of five to ten thousand people might result in a greater loss than many times the cost of maintaining this particular feature of the Board of Health. The Board of Health should have its powers extended so that its rules and regulations for the protection of the people and the preservation of the public health can be enforced whenever necessary. Sanitary laws will not, in themselves, protect the people, but sanitary officers, backed by sanitary laws and the Board of Health with the State behind them, can protect the people and will protect them, if the law is such the authorities can enforce. Laws regulating questions of public health which cannot be enforced are a farce, and bring authority into ridicule and invite disaster in times of need.

"VITAL STATISTICS."

IN the report of Mortality Statistics issued by the Government in 1908, we find a most elaborate statement concerning this most important question. Seventeen States in the Union at the time this report was issued were known as "Registration States," and in addition to this certain districts including registration cities in non-registration States brought the total number of States and districts in which registration is carried out, up to seventy-four in number. A committee of the American Medical Association on Uniform Vital Statistics prepared, after much time and consideration of this question, a Vital Statistics Bill for the consideration of State Legislatures. Such a bill was introduced at the last meeting of the Tennessee Legislature, but on account of opposition to the form of the bill, another less complete in its provisions and details, was substituted for it. So long as Tennessee has not a Registration Law which meets the

demands of those in authority, just so long will the Vital Statistics from this State fail to come up to the requirements of the Bureau of the Census, which has charge of this important matter. The State Legislature will not have before it a matter of more importance than this question of regulating the compilation of proper and accurate vital statistics. Such statistics relating to births, deaths, marriages, health and disease. No State can be regarded as having met all of the requirements of the present day unless it makes provision for statistics along these important lines. It is strange, but it is true, that the State makes provision for every legal procedure, every business transaction, insignificant as it may be, and yet fails to record that most important information by which can be measured the standard of human lives. In this State a child can be born and die without any record being made of it, so far as the

State is concerned, or a child may be born, live to an old age, and no record is kept of birth or death, which facts are important to the State, but known only to a few in immediate contact with him. We are very much more careful of recording the pedigree of horses, cattle, dogs, cats and chickens than we are of human beings. We carefully compile and record the acreage and crops of our States and keep in close touch with the various disease of plant and animal life, while the people sicken, die and are buried and forgotten. When epidemic diseases of cattle, hogs or sheep appear in any locality in the State, these are reported and an effort is made to stamp out the disease. Yet, numerous cases of tuberculosis, a constant menace to the public health, exist, and no record

is made of them, and but little concentrated effort to care for them, except through special organizations amongst those of philanthropic spirit. These conditions should not exist, but they will continue unless special provision is made by the State for the collection of Vital Statistics. In order that Vital Statistics may be of value, it is necessary that States belonging to the "Registration States" should have the same laws under which statistics are compiled, otherwise the statistics are valueless. Hence it is, that every physician of the State should lend his influence to secure such legislation as would put Tennessee in such an attitude as to render its statistics both reliable and available and recognized as such.

THE SOUTHERN SURGERY AND GYNECOLOGICAL ASSOCIATION.

THE twenty-third annual meeting of this Association convened in the city of Nashville at the Hotel Hermitage on the morning of December 13th, and was in session three days. The meeting was called to order by Dr. R. E. Fort, Chairman of the Local Committee of Arrangements, and then extended on behalf of the profession of Nashville a hearty welcome to the visiting members and friends of the Association. During his remarks he called attention to the fact that Dr. W. D. Haggard, father of Dr. W. D. Haggard, Jr., the Secretary of this Association, was its first President, and further, that the profession of Nashville had been honored with the Presidency several times. After extended remarks, Dr. Fort turned the meeting over to the President, Dr. W. O. Roberts, of Louisville, Ky.

The program arranged for this meet-

ing was one of exceptional interest, and while the membership of this Association is limited, it is one of the most influential associations in the country. Primarily designed, as its name implies, to be a Southern organization, it nevertheless has upon its roll of members eminent surgeons and gynecologists from a large number of States, outside of its original territory. The transactions of this Association are regarded as of the highest character and authority upon the subjects discussed, and many outside of its immediate membership always look forward to the coming of the transactions as an event. The Local Committee of Arrangements provided some very attractive social features for the benefit of their visiting friends. The attendance was good, the interest pronounced, and the benefit resulting from this meeting will be far-reaching in its effect.

DEATHS.

DR. WILLIAM C. DAKE.

On Friday night, December 9th, at his home in this city, Dr. William Church Dake died, following a stroke of paralysis which occurred on Thursday night at the Duncan Hotel about 8 o'clock. In the death of Dr. Dake the city of Nashville has lost a most estimable citizen, and his branch of the profession a most eminent physician. Dr. Dake was a native of Pittsburg, Pa., having been born in that city on January 28, 1852. He was a son of Dr. Jabez Dake, who was himself a physician of standing and influence in this city and the chief exponent of the homeopathic profession.

Dr. William Dake graduated from the Medical Department of the University of Nashville and afterward pursued his studies in the New York Homeopathic Medical College. He was successful in his profession, and had been President of the Homeopathic Medical Society of Tennessee. Dr. Dake was a member of a family of physicians, having three brothers and one son in the practice of medicine. He was highly esteemed by all who knew him, and in his death the poor have lost a benefactor and the city a physician who, during times of need, has ministered to the suffering of all those who sought his help.

DR. JAMES B. STEPHENS.

SATURDAY night last, December 10th, Dr. James B. Stephens died in a local infirmary as the result of being thrown from his buggy by a taxicab about 6 p.m. He was returning from a call when his buggy was struck by a taxicab and overturned, the doctor being thrown from his buggy, which turned over on him, causing considerable shock from which he seemingly recovered. Upon the urgent solicitation of friends, he consented to go to an infirmary, where it was thought that no serious injury had been sustained and that he would soon recover, but about 10.30 that night he suddenly died.

Dr. Stephens was born October 18, 1834, at Chapel Hill, Tennessee. He studied medicine in the University of Nashville. He has been closely identified with the profession in Nashville for the past thirty-five years, and previous to his coming to

Nashville, he practiced for a number of years in Como, Henry County, of this State. Since his coming to Nashville he has always been ardent in his support of the Nashville Academy of Medicine and the State Association, having been President of the former some twenty years ago. He always had a tender spot in his heart for the younger members of the profession, and upon the floor of the Academy and in professional intercourse he was always kind and considerate. He was one of the oldest members of the profession in the city, and his influence was always for good.

The following action was taken by the Nashville Academy of Medicine, December 12th, at 12.30 p.m., and the resolutions were presented to the Academy of Medicine at the regular meeting, Tuesday, December 13, 1910:

MEMORIAM.

"Dr. James B. Stephens was one of the founders of the Nashville Academy of Medicine. On the evening of December 10, 1910, while returning from a professional call, still wearing the livery of his half century of service to humanity, the inevitable summons came and found him waiting.

"*Resolved*, That in the death of Dr. Stephens the Academy has lost one of its strongest supporters, and the medical pro-

fession one of its truest and most gracious comrades.

"*Resolved*, That the character of Dr. Stephens at all times commanded the deepest respect, and while his loss will long be keenly felt, individually and as a body we shall be immeasurably profited because he lived and labored among us.

"*Resolved*, That a copy of these resolutions be spread upon the minutes, and copies furnished to the press for publication.

"THE NASHVILLE ACADEMY OF MEDICINE,
"BY THE COMMITTEE."

TO THE COUNCILORS.

WE desire to call the attention of the Councilors to the fact that the State is in need of certain legislation affecting the interests of every member of the profession and that the Association has chosen the Councilors for the express purpose of securing through them such advice and help in legislation as may be necessary or required. We have called attention in this issue to certain needs of the State, and we appeal to the Councilors in each district to use their influence with the profession and impress upon each physician the importance of using his influence with his representative in the next Legislature to secure needed legislation.

We herewith give a list of the Senators and Representatives of the various districts and counties, so that the physicians may see them in person or write the Senator or Representative from his district and county:

DISTRICT.

SENATE.

1. E. E. Butler, Mountain City.
2. John I. Cox, Bristol.
3. J. P. Davis, Tazewell.
4. T. J. Hale, Morristown.
5. John C. Houk, Knoxville.
6. S. J. Parks, Madisonville.
7. Xen. Hicks, Clinton.
8. E. D. Bass, Chattanooga.
9. Walter White, Rhea Springs.
10. O. K. Holladay, Cookeville.
11. D. T. Layue, Whitwell.
12. H. L. Preston, Woodbury.
13. A. A. Adams, Lebanon.
14. W. F. Albright, Gallatin.
15. J. M. Draughon, Springfield.
16. Nat Baxter, Jr., Nashville.
17. Hill McAlister, Nashville.
18. W. P. Hickerson, Manchester.
19. Dr. A. Jones, Lewisburg.
20. T. B. Brown, Columbia.
21. F. C. Russell, Franklin.
22. Frank Boyd, Waynesboro.

23. C. W. Turner, Waverly.
24. T. I. Brooks, Atwood.
25. A. H. Askew, Jackson.
26. J. T. Rogers, Decatur.
27. W. I. McFarland, Humboldt.
28. F. J. Caldwell, Tiptonville.
29. J. M. Parrish, Dyersburg.
30. W. N. Page, Memphis.
31. J. P. Matthews, Somerville.
32. H. M. McKay, Memphis.
33. W. J. Bacon, Memphis.

HOUSE OF REPRESENTATIVES.

DISTRICT. *Joint Representatives.*

1. J. M. Stout, Doeville.
2. J. H. Swann, Bristol.
3. G. E. Burbage, Johnson City.
4. W. M. Leeper, Dandridge.
5. H. G. Farmer, Rutledge.
6. H. B. Brown, LaFollette.
7. S. M. Leath, Clinton.
8. J. W. Hudson, Knoxville.
9. J. K. P. Marshall, Cleveland.
10. J. R. Thompson, Dayton.
11. A. L. Garrison, Crossville.
12. J. Q. McDonald, Monroe.
13. Abolished.
14. J. E. Foust, Hartsville.
15. L. P. McFarland, Lebanon.
16. Thos. Wiseman, Lois.
17. E. P. Hickman, Lawrenceburg.
18. R. J. Stone, Ashland City.
19. T. P. Ewing, Clarksville.
20. E. C. Collier, Waverly.
21. Jo. F. Odle, Camden.
22. J. J. B. Johnsonius, Paris.
23. J. F. Hall, Lexington.
24. M. F. Ozier, Henderson.
25. S. F. Howard, Union City.
26. P. W. Lanier, Covington.
27. H. E. Quenichet, Memphis.

Representatives Proper.

Bedford—V. S. Parsons, Shelbyville.
 Blount—A. M. Rule, Maryville.
 Cannon—H. T. Stewart, Woodbury.
 Carroll—A. J. Argo, Trezevant.
 Coker—F. W. Parrott, Newport.
 Claiborne—Wm. Ausmas, Arthur.
 Coffee—W. C. Thornesbury, Tullahoma.
 Crockett—J. F. Park, Friendship.
 Davidson—M. E. Link, Nashville.
 Davidson—John P. Murphy, Nashville.
 Davidson—Arch Harper, Nashville.
 Davidson—T. J. Chrisman, Nashville.
 Davidson—Z. T. Jordan, Nashville.
 Davidson—Verner Tolmie, Nashville.
 DeKalb—A. N. Cathcart, Liberty.
 Dickson—J. T. Hudson, Charlotte.
 Dyer—John M. Drane, Newbern.
 Fayette—J. E. Parks, Somerville.
 Franklin—W. T. Sublett, Estill Springs.
 Gibson—A. D. Hassell, Trenton.
 Gibson—W. R. Couch, Rutherford.
 Giles—R. H. Ragsdale, Pulaski.
 Greene—John Henard, Greeneville.
 Hamilton—T. A. Rogers, Chattanooga.
 Hamilton—W. A. Terrell, Chattanooga.
 Hamilton—E. H. Williams, Chattanooga.
 Hardeman—J. T. Moore, Bolivar.
 Hardin—C. P. Hoover, Hamburg.
 Henry—T. N. Clement, Paris.
 Hickman—J. W. Lambert, Centreville.
 Hawkins—A. B. Davis, Rogersville.
 Haywood—Currie Dixon, Brownsville.
 Jackson—W. A. Overton, Gainesboro.
 Knox—Bruce Longmire, Knoxville.
 Knox—J. C. Groner, Knoxville.
 Knox—Harmon Kries, Knoxville.

Lauderdale—J. B. Mitchell, Ripley.
 Lincoln—J. D. Tillman, Fayetteville.
 Marshall—G. M. Miller, Lewisburg.
 Madison—J. N. Robinson, Jackson.
 Madison—J. G. Futrell, Medina.
 Maury—A. A. Lipscomb, Columbia.
 Maury—W. T. Galloway, Columbia.
 Monroe—E. H. White, Madisonville.
 Montgomery—A. M. Leach, Clarksville.
 McMinn—J. C. Carpenter, Athens.
 McNairy—J. P. Sipes, Selmer.
 Marion—S. H. Raulston, Jasper.
 Obion—E. N. Moore, Obion.
 Overton—T. W. Carlock, Livingston.
 Putnam—A. R. Massa, Cookeville.
 Reane—J. B. Cross, Wheat.
 Robertson—G. L. Morris, Springfield.
 Rutherford—J. C. Beesley, Murfreesboro.
 Sevier—J. A. Householder, Pigeon Ford.
 Shelby—F. E. Miller, Memphis.
 Shelby—Dr. W. D. Horn, Memphis.
 Shelby—B. L. Capell, Memphis.
 Shelby—W. M. Stanton, Memphis.
 Shelby—Abe Cohn, Memphis.
 Shelby—Putnam Dye, Memphis.
 Shelby—S. H. Trezevant, Memphis.
 Smith—B. D. Cardwell, Carthage.
 Stewart—P. P. Fitzhugh, Dover.
 Sullivan—J. Parks Worley, Bristol.
 Sumner—D. B. Puryear, Gallatin.
 Tipton—S. H. Mitchell, Mason.
 Warren—John McGibbony, McMinnville.
 Washington—W. R. Reeves, Jonesboro.
 Weakley—D. W. Harper, Martin.
 White—John S. Cooper, Quebec.
 Williamson—Dr. A. Gibbs, Thompson Station.
 Wilson—B. J. Vanhook, Lebanon.

BOOK REVIEWS.**THE PRACTITIONERS' VISITING LIST FOR 1911.—**

An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 100 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

This is quite a valuable little book for the general practitioner. It contains much valuable information which has been

arranged in such a manner as to render it easy of access and accurate in information. A scheme of dentition, tables of weights and measures; incompatibles, poison and antidotes; directions for artificial respiration, tables of doses and directions for ligating arteries. In addition to this, that portion for recording visits is especially arranged for noting details of practice and such other business items as physicians would care to register. Such books are always a great help to physicians, and if properly used are a complete daily record of his work for the year.

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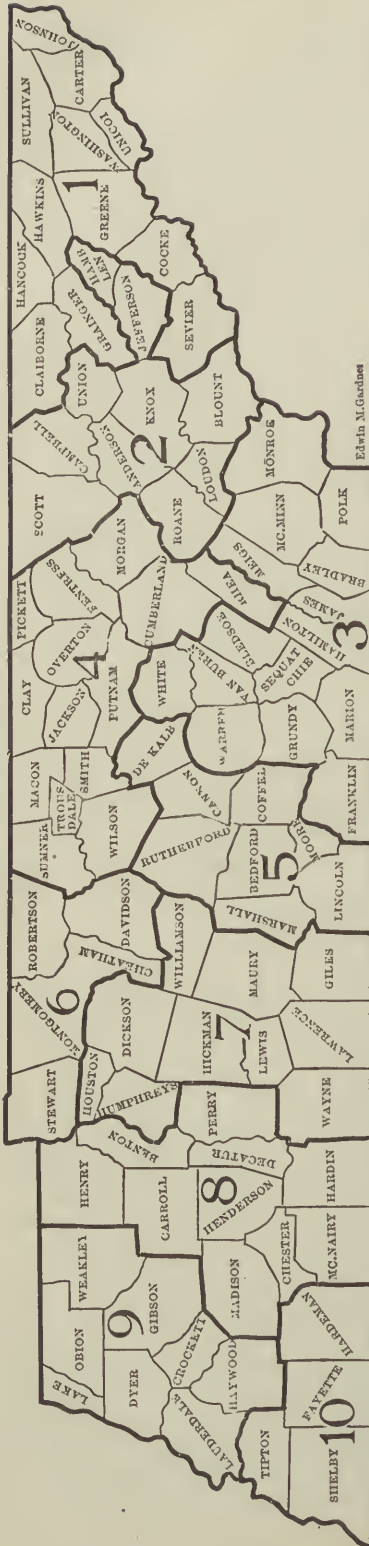
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By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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No. 9

LUMBAR PUNCTURE; ITS TECHNIQUE, INDICATIONS AND THERAPEUTIC USES.

BY JOHN OVERTON, M.D., NASHVILLE.

In the performance of lumbar puncture, if the patient can be held still and doesn't suffer too much, it is well to attempt it without anesthesia, otherwise it is best to use a general anesthetic. The position of the patient is upon one side, preferably the right, with spine well flexed, left knee drawn up as far as possible and left shoulder depressed. The space selected for puncture is usually between the third and fourth or fourth and fifth lumbar vertebrae; the lower should be selected in very young children because of the fact that the spinal cord reaches farther down in them. An aspirating needle about three inches in length, preferably that made after the pattern of Quincke with a stilette which is beveled so as to fit exactly into the mouth of the needle, should be chosen. The space is then found by the index finger of the left hand, the needle inserted a little to the right of median line and pushed up and inward for a variable extent, according to the age and size of the individual. After entering the canal, the stilette should be withdrawn and the fluid allowed to escape slowly. If possible it is more scientific and exact to attach a manometer tube so as to be able to determine accurately the amount of pressure, it being advised by some to stop when it reaches three to five centimeters, the normal pressure.

In a very full article on technique by

Heiman, he mentions several methods by which we may increase the flow when it is too slow. First, position; second, extreme flexion of spine, and third, increase of vascular tension by deep breathing, coughing, etc. Another man advises application of ice to the feet for the same purpose. As a rule it is very simple and easy to perform a lumbar puncture, but occasionally, although we may have done a great many, we meet with a great deal of difficulty, explanation of which is puzzling.

Recognizing that this procedure is known to you all and knowing also that since its introduction in 1891 by Quincke for decompressive purposes in acute serous meningitis it has constantly grown in favor, still I believe its importance is not yet fully appreciated. For this reason I thought it not out of place to call the attention of this association particularly to it. Enough has been done to establish its great value in enabling us to arrive at more definite knowledge in a number of obscure conditions.

In all cases where the evidence is fairly presumptive that a meningitis is present puncture should be performed so as to enable us to determine accurately whether the symptoms are due to an accumulation of serous fluid or to an infection by one of the various bacteria which produce trouble in the meninges—such as the diplo-coccus

intra-cellularis, tubercle bacillus, pneumococcus, bacillus of Pfeiffer, streptococcus or that of diphtheria or bacillus typhosus. Occasionally, in supposed hysteria, this simple procedure has shown us that the trouble was due to a much more serious condition. Some have claimed that at times it is of use in determining the difference between neurasthenic conditions and a beginning paresis or cerebral syphilis. In cases of head injury, both in the adult and newly born, it may give valuable information. It is also, I believe, indicated in cases of acute coma—not merely transient as in alcoholic, uremic eclamptic conditions. Also wherever we have the symptoms of acute ventricular distention coming up as a complication of any other trouble. Though lumbar puncture is comparatively simple and free from danger, bad effects rarely having been noted when done with care, we should not undertake it unless we feel that we are justified in expecting some benefit to follow, either from a diagnostic or therapeutic standpoint. There is, however, one condition in which it is strongly contraindicated—that is in the presence of suspected brain tumor, fatal result having occurred in the presence of such pathology. As we all know, symptoms of meningeal trouble, called meningism by some, frequently complicate many acute infectious diseases, such as the exanthemata, typhoid, pneumonia, influenza and inflammatory trouble within the middle ear. In such conditions we should therefore be extremely careful in studying out our indications. The three positive signs of ventricular distention are severe headache with long vomiting and stasis-papillae. Other meningeal symptoms to be looked for are progressive drowsiness, disturbance of reflexes, irregular pulse and respiration, dilation of the pupil on extension of neck and its contraction on flexion, dilated inactive pupil, involvement of cranial nerves

as in ptosis or facial paralysis, grinding of teeth, delirium, convulsions, coma, Kernig's or Babinsky's or MacEwen sign, the latter of which Koplik lays great stress upon as a diagnostic point in determining distention of the ventricles. In meningism proper, whether there are decided cortical-psychic or cerebro-spinal symptoms, signs and symptoms are not so constant, patient is quieted by smaller doses of morphine and recover much more quickly.

When puncture is done we should note with what pressure the fluid flows, its quantity, its appearance, whether clear, cloudy or purulent or bloody. It should be done by chemical, cytologic, cryoscopic, bacteriologic and if necessary inoculation tests. In cases where the trouble is caused by organisms that are easily determined by cultural or staining methods, diagnosis can frequently be arrived at early. Where due to pus-producing organisms fluid is cloudy or purulent and contains a high percentage of polynuclear cells. In trouble of a tubercular or influenzal nature it is usually clear. In the tubercular form the bacillus is occasionally found during life, but more often after death. There is also a predominating lymphocytosis; it does not reduce Fehling's solution, contains a high per cent of albumin, on standing a filmy white coagulum forms and on inoculation is infectious to guinea pigs.

THERAPEUTIC USES—At times lumbar puncture becomes useful by enabling us to introduce into the spinal canal drugs which produce a state of surgical anesthesia without unconsciousness. For a time cocaine was used a great deal in this way, but has generally been given up because of some unpleasant effects as well as the danger attending its use. Stovaine is at present under trial and promises to be much safer, as well as to have a wider field of usefulness though it is still in the experimental stage. During the last few years great benefit in the treatment of tetanus

has been claimed for the injection of a small quantity of a 25% solution of magnesium sulphate into the spinal canal. In the spring of 1905, at the Roosevelt Hospital, I saw a case of tetanus with recovery exhibited in which the magnesium sulphate had been used, it being claimed that it had been very beneficial in controlling the convulsions for a period of twenty-four to thirty-six hours after each injection. For a time also, it was thought by some that the spinal injection of anti-tetanic serum the best route to administer it by, though this is not generally believed or practiced. However, during my hospital service I had the opportunity of seeing two patients cured by this method; one was of chronic nature, the other acute, having developed eleven days after injury, in whom the tetanic spasms were unusually severe, after a dozen of which he seemed to have passed beyond all possibility of recovery. Whether treatment by this method was more effectual than if the subcutaneous injection had been used, of course, cannot be determined positively. Lumbar puncture has found its greatest field of usefulness in the treatment of epidemic meningitis, in which disease during the past few years the specific serum has been used with the result that the present per cent of recovery is that of the former percentage of mortality. For a long time tubercular meningitis has been looked upon as inevitably fatal, but recently occasional and apparently authentic, well established cases of recovery have been reported. Martin, in a collection of 2,160 cases from London and Vienna records, reports twenty-two cases of recovery, and other men have reported smaller series. For years many have noted remissions in tubercular meningitis and with the present promise of a possible cure before us we should be very careful to detect the earliest evidences of this disease, perform lumbar puncture and if the

nature of the condition then seems reasonably certain the early adoption of vigorous general treatment combined with the use of tuberculin may, I think, increase the percentage of recovery in this hitherto hopeless disease. In looking over this subject I was able to find one case which appeared to have been cured by the use of tuberculin for a period of four weeks; however, symptoms reappeared later and the patient died. It has been observed at times that the performance of puncture in tubercular meningitis has seemed to hasten the end, still it should be used in all cases for the two following reasons: First, by the withdrawal of fluid frequently we may prevent the degenerative changes in the brain cells due to continued pressure; second, because of the beneficial results which may follow through the pouring out of opsonins in the reaccumulation of the fluid. In cases of meningitis due to the more common pus-producing organisms, we may at times expect benefit from the results of puncture and the use of autogenous vaccines. In large special hospitals for the treatment of ear diseases, meningitis of this nature is quite common. Dr. Moore, Nashville, told me that in the Manhattan Eye and Ear Hospital of New York City during the year of 1905-1906 there were a great number of cases of meningitis complicating ear diseases and that lumbar puncture was constantly practiced in these cases, with a fair percentage of recovery. The fluid in these cases was practically always clouded and the infective organisms found on culture. He related to me the history of a very interesting case, as follows: In the after treatment following the operation for mastoiditis very pronounced meningeal symptoms developed. Lumbar puncture was performed every second day for about six times, the lateral ventricle was also drained by a wick of gauze, being reached through the original mastoid

wound, which was apparently clean. The subsidence of the symptoms, as well as the clearing of the fluid, was steady and gradual and resulted in complete recovery. In the March number of the *American Journal of Medical Sciences*, Hultgen, of Chicago, reports a case of recovery of what he believed to be tubercular meningitis following two punctures. He also reports one case of acute serous meningitis and two cases of what he believed influenzal meningitis, all of which recovered after one or two punctures. In the April number of the *American Journal of Medical Sciences* there is a very full and interesting paper on the various aspects of meningitis in typhoid, written by Dr. Richard Stein. The particular object of the paper was the report of three cases of serous meningitis complicating typhoid, the first of which had most pronounced and prolonged meningeal symptoms and made a complete recovery after puncture, the second showed decided improvement, but death resulted in a few days following intestinal hemorrhage. The third case showed decided improvement after puncture, but its final termination I could not definitely make out. Up to the present it has appeared to have had no permanent benefit in the treatment of eclampsia, since the lesions in the brain and other organs have usually advanced too far. In discussing the matter with Dr. Litterer he recalled two cases which he saw in consultation. Both were in coma, one was plainly eclamptic and the other was considered a case of severe toxemia of pregnancy. Within an hour after the withdrawal of two ounces of clear fluid both patients became conscious. Condition, however, went on to death in both instances. Prof. G. Carriere, of Lille, reports two cases of uraemia resulting in recovery following puncture, four cases in which there was no benefit, two other cases in which there was improvement. He uses

puncture in this class of cases because he believes that it reduces the pressure and the tendency to œdema, as well as removes the poisonous fluid that is irritating the cells of the cortex. In some cases of nervous nremia he found the fluid hyper-toxin, in other cases he found the trouble due to compression and in others to œdema, all of which conditions he believed benefited by puncture. Following is a condensed history of a case occurring in my own practice:

A colored woman, aged 35, for several days had been complaining of pain in the back of the head and neck. Late one evening she was noticed to appear slightly irrational and was unable to speak. Later she had several convulsions and from this went into a comatous condition from which she could not be aroused. Next afternoon about 4 o'clock her lungs were full of moist rales, her pulse barely perceptible, temperature 104 and death seemed imminent. Examination of blood showed nothing, but there was quite a large percentage of albumin in the urine. Several hours later she seemed to be a good deal improved, though she could be gotten to understand nothing. She had some rigidity of the neck, so a lumbar puncture was performed. The fluid came out under a great deal of pressure. It was clear and amounted to about two ounces. Nothing was found under the microscope, but no cultural tests were made. Next morning the patient was almost entirely rational. For a week she continued drowsy and complained of some pain in back of head and neck. Gradually all symptoms subsided and since that time she has been apparently well and strong, performing daily active duties.

In cases of cranial injury where we are in doubt as to whether the trouble is due to extradural or subdural basal hemorrhage lumbar puncture is a valuable adjunct to further treatment. In cases of

head injury where nervous symptoms persist, such as dizziness and headache, puncture may be decidedly beneficial, as in a case reported by Savy in which he removed 40 C. C. of decomposing blood two months after injury with relief of symptoms. Malatesta also advises its use in obscure head injuries for the relief of pressure if present and to prevent the absorption of toxins from decomposing blood. Devraigne, in *Presse Medicale*, advises puncture in apparently asphyxiated infant where there is a cyanosis, convulsions, coma, stiffness of neck, temperature and contractions, since it may help us in giving our prognosis or may result in cure. He reports one case of recovery after several withdrawals of a small quantity of a slightly blood-stained fluid; also one case of death following withdrawal of pure blood from the spinal canal, indicating a much more serious injury. Occasionally in chronic nephritic conditions with rigidity of neck and back, puncture may be of benefit. It has been shown to be of no value in epilepsy, also of no therapeutic value though of some diagnostic importance in the chronically insane. Ravant claims that in very rebellious cases of circumscribed lichen, eczema without effusion and prurigo, lumbar puncture should be tried, as he has seen several cases in which the itching was promptly stopped and the lesions were gradually healed. It may also be of some temporary value in cornea.

DISCUSSION ON THE PAPER OF DR. OVERTON.

DR. JOHN A. WITHERSPOON, Nashville:

Dr. Overton has given this subject a great deal of attention and study. He has done a great deal of work on it in the hospitals of Nashville and deserves our commendation for bringing the subject to our attention.

The subject I want to talk on in this regard is largely its use in cerebro-spinal meningitis. Here is a disease that heretofore has been incurable practically. The mortality rate has been very high, and since Flexner, of the Rockefeller Institute, has introduced his serum and introduced lumbar puncture it has been remarkable what a great saving of life this procedure has brought about. Lumbar puncture is not difficult. It is not dangerous, and in the main in these particular cases, if you can take them early enough before mixed infection takes place, it is remarkable the results you will get in cases of cerebro-spinal meningitis. The Flexner serum can be had by asking for it. There is no charge. All you have to do is to report your case, keep in touch with it and report your results. To get it, it can be ordered from New York or Chicago. In a few cases recently—cases which appeared perfectly hopeless—they responded to the serum treatment by means of lumbar puncture, and our mortality in this particular disease has decreased wonderfully. I do not feel that any man can afford to let a case of cerebro-spinal meningitis die today without lumbar puncture and the use of Flexner's serum, because it will give results as long as the lesion is in the cord.

DR. OVERTON (closing):

Where we have the least reasonable suspicion of trouble with the meninges, whether due to an accumulation of fluid or to some active infection, we should not hesitate to perform lumbar puncture in order to arrive at a correct diagnosis, and then adopt any means of therapeutics we may see fit.

TUBERCULIN TREATMENT IN PULMONARY TUBERCULOSIS.

BY WM. LITTERER, A.M., M.D., NASHVILLE.

Soon after the announcement by Robert Koch in 1882 of the discovery of the tubercle bacillus there quickly followed many attempts to destroy the bacillus in the tissues of the infected organism by the administration of various substances found to kill it *in vitro*. All such attempts were, of course, futile, especially since many of the substances that were recommended, if used in sufficient strength, would have killed the host as quickly as the parasite. The literature during that period abounded in wonderful cures and marvelous results obtained by some, from the use of these so-called "false specifics," only to be followed by others by deep disappointment and ultimate abandonment of the remedies. Today, a sign of the times is the paucity of publications referring to fresh or new remedies aside from the specific treatment of tuberculosis by the various tuberculins. A perusal of current literature reveals an unmistakable increase in the actual practice of the specific treatment of tuberculosis and also palpable progress in the growth of our knowledge of the main lines along which it should be conducted.

When Koch, in 1890, proclaimed his sensational discovery of a specific remedy against tuberculosis, perhaps there never was an announcement made in the realm of medical science that carried with it so much hope as did that of the discovery of tuberculin. Koch made two claims for tuberculin. First, that it causes a specific reaction in tuberculous individuals, and second, that it has curative properties. For its administration he laid down the following very sensible rules and if they had been followed the world would have

been spared those dreadful scenes which resulted from its early trial:

1. Only patients that have little or no fever, and in whom the process has not advanced too far, are suitable for treatment.

2. One begins with a very small dose and increases it so slowly that only very slight reactions or even none at all take place.

3. If reactions take place tuberculin must not be injected again until the temperature has been normal for one or several days.

4. The treatment with tuberculin must be repeated till, after an interval of three or four months, the capability of reaction is permanently extinct (Pottenger, p. 168).

These rules, although formulated eighteen years ago, are even safe for today. Of course, all these years of experience have taught us different methods of administration as well as its employment in selected advanced cases. Koch's rules were absolutely disregarded. Large doses of tuberculin were administered to all sorts of cases, and many a poor, far-advanced consumptive was hurried to his grave.

A patient, for instance, was given tuberculin and reacted to 104 degrees F. on the following day, when he received a second dose with similar results. This was continued in many cases until death ensued. It was not long before the majority of physicians dropped the new remedy with as much avidity as they had taken it up. The age of "tuberculin terror" may be said to have begun at this time and he who used tuberculin was looked upon by many as a

criminal. In spite of the general disappointment which followed its misuse; in spite of the fact that much harm was done and death hastened in many instances, there were a few great and far-seeing minds who grasped the meaning of the remedy and realized that Koch had introduced a therapeutic agent which was destined to live. A few German physicians, Goetsch, Spengler, Krause, Heron, etc., led by Koch, and Trudeau, Von Ruck, Pottenger and others in this country, have been instrumental in causing a reconsideration and new trial of this remedy.

Notwithstanding their consummate efforts in behalf of tuberculin this revulsion of feeling on the part of the profession lasted for some years, but about 1898 interest in the remedy was revived. Infinitesimal doses were given, and an attempt was made to render reactions of minimal occurrence instead of considering them the great desideratum. The present period could appropriately be called the "tuberculin renaissance era," which began a few years ago. Apathy has given way to enthusiasm. Again the scientific world is inflamed and the pendulum is swinging the other way. It is well for us to pause a bit lest this very enthusiasm lead us to discredit a method which, when used rationally and understandingly, is unquestionably a most valuable aid in the treatment of tuberculosis.

THE TUBERCULINS.

The term "tuberculin" is a broad one and has been applied to nearly all products made from the tubercle bacillus, but in reality belongs only to those which are made from the culture fluid on which bacilli have been grown. For the past six years I have been making my own tuberculins (according to the formulas given below), not only for therapeutic uses, but for experimental purposes. In conducting

the various experiments incident to the immunization of the lower animals, it is manifestly apparent that absolutely fresh products be obtained from bacilli of known virulence. These bacilli represent three separate and distinct types, *viz.*: Human, bovine and avian bacilli. For therapeutic purposes I have been in the habit of using one of five different types or strains of human bacilli, which were isolated from various tuberculous subjects for the purpose of exchanging one strain for another in case the patient failed to respond to the treatment as rapidly as he should. I have deemed it wise and expedient in a number of instances to mix equally the five human strains or to use solely the tuberculin made from the bovine or avian bacillus. By such a procedure I have observed that after a change of this sort that patients (where they appeared not to be doing well) were again on the road to health even after the measures previously applied seemed to have reached the limit of their efficacy.

There are described between fifty and sixty varieties of tuberculin. Of these only a few will be considered while others being either modifications of these or having proved inefficacious.

The first used was Koch's original tuberculin, "O. T.," called also "Old" Tuberculin, to distinguish it from his more recent products, "New" Tuberculin. (1) The original tuberculin Koch (O. T.) is the concentrated gerin free culture media (glycerin bouillon), in which the tubercle bacilli were allowed to grow for several weeks. (2) Bouillon Filtrate "B. F." (Deny's) is the unheated, unconcentrated, filtered (through porcelain) bouillon culture of human tubercle bacilli. (3) "New Tuberculin," Tuberculin R., "T. R.," or "Tuberculin Residue." This is prepared by growing a virulent culture of tubercle bacilli. They are dried in the dark in vacuo and then pulverized. The powder

thus obtained is suspended in distilled water and centrifugated at very high speed for about thirty minutes. The water (which is called tuberculin obere "T. O.") is then drawn off, discarded and the bacterial residue is again dried in vacuo, as above, and treated in the same manner. This is done for several times. It is supplied in liquid form, containing 2 mg. of the powder to the C. C. of 20% glycerin solution. (4) Bacillen Emulsion B. E. This is Koch's latest product, which he has suggested for active immunization. It consists of an emulsion of the ground up tubercle bacilli in equal parts of glycerine and normal saline solution. (5) Bovine Tuberculin. Perlsucht Tuberculin (P. T. O. Spengler) is made from the bovine bacilli without subjecting the culture fluid to heat, which is believed injures its activity. The bacilli are grown until they form a covering on the culture medium when they are removed by filtration and the filtrate concentrated by placing it in an incubator until it equals one-half of its original volume. It is then restored to its original volume by the addition of glycerine.

Spengler and Pottenger find that preparations made from the bovine bacillus are much less toxic for human infections than those of the human bacillus and at the same time they find them more active in their stimulation of the machinery of immunization as is shown by their power to increase the specific agglutinins of the blood. There are many other preparations that are more or less well known, *viz.*: Antiphthsin (Klebs), the water extract of tubercle bacilli (Von Ruck), Hunter's Modification of Old Tuberculin, Beranek's tuberculin, Von Behring's tulase and many others.

CHOICE OF TUBERCULIN.

Of the three forms of tuberculin mostly in use today are the Koch's New Tuber-

culin T. R., B. E. and the B. F. of Deny's, with bovine tuberculin rapidly gaining popularity. It would seem, theoretically, that the B. E. would be able to produce the greatest amount of antibacterial immunity, while Deny's tuberculin "B. F." appears to be best suited for the production of an antitoxic immunity. This tuberculin contains the products of the tubercle bacilli disintegrating during the growth of the culture, as well as the unchanged products of the tubercle bacillus given off in its growth. It is less toxic than the Koch's Old Tuberculin "O. T." and undoubtedly possesses immunizing properties which are destroyed in the "O. T.," as a result of the prolonged heating to which it is subjected. The bacillen emulsion does not represent the products of bacterial action such as are found in the "O. T." and "B. F." and therefore, to my mind, is one of the reasons why it should not be solely used in the treatment of tuberculosis. Again, it is slow in its absorption and will cause many more general and local reactions as compared to the bouillon filtrate "B. F." Up to two years ago I had used only the "B. E.," since that time equal parts of the "B. F." and "B. E." have been employed with apparently very much better results than with the "B. E." alone. I am strongly of the opinion that the ideal therapeutic agent for the treatment of tuberculosis is the combination of two products, *viz.*: Equal parts of the bacillen emulsion "B. E." and Deny's tuberculin "B. F." This mixture would combine whatever immunizing properties that exist in either the tubercle bacillus or the culture fluid.

ACTION OF TUBERCULIN.

Whenever a cure of tuberculosis takes place it consists in establishing upon the part of the infected individual an immunity to the tubercle bacillus and its toxins. All bacterial diseases depend for their re-

covery upon the favorable action of the machinery of immunization. A cure from diseases of bacterial origin may be considered synonymous with immunity. This immunity may be ever so transitory, as is noted after pneumonia or somewhat more lasting as is observed following diphtheria, or it may be quite permanent as we find it after syphilis, smallpox, etc. When the body tissues are invaded by specific micro-organisms a struggle for mastery at once ensues. The antibodies which are normally found in the tissues destroy some of the invading bacteria, liberating endotoxins, etc., which in turn stimulate the body cells to the formation of more antibodies. In other words, any toxin which, when introduced into the organism, has the power of stimulating the system to the production of antibodies which are for that particular poison. The ultimate outcome of the battle between the bacteria and body cells of the individual depends upon the number or virulence of the bacteria on the one hand and upon the capability of the body cells to respond to the stimulation on the other. The antibodies found in an animal as a result of the recovery of an infectious disease are of several different kinds. Agglutinins, opsonins, lysins, antitoxins, preceptins, stimulins and coagulins have thus far been studied and there may be still others as yet undiscovered.

It is manifestly important to know that these specific antibodies above noted can be produced in many diseases by the inoculation of bacteria which have been killed at their minimum thermal death point. The antibodies that are formed as a result of injecting a certain type of bacteria are specific for that particular micro-organism. Thus, typhoid bacilli causes typhoid antibodies; staphylococci produce staphylococci antibodies and tubercle bacilli (bacillen emulsion and products), manufacture antibodies for the tubercle

bacillus. So the use of tuberculin is based on the principles of artificial protection, and it is our desire to obtain an overproduction of antibodies in order to build a defensive armament against which the tubercle bacillus and its ravages will be impotent.

In tuberculin therapy we propose to produce an active immunization. To establish such an immunity it is absolutely imperative that the toxins (tuberculins) act with a regular progressive intensity on those groups of cells which produce toxin immunity. Stimulations of a slight or stationary nature are not sufficient to set in motion the machinery of immunization.

It has been shown by Roux and Von Behring that properly spaced many small increasing stimulations are of greater import than one large stimulation. Likewise Trudeau affirms that infinitesimal doses of tuberculin, methodically increased, which produce only slight stimulation of the defensive resources of the organism, result in a well-marked toxin immunity, as shown by increased toleration to large doses of toxin, while large doses or too rapid an increase may bring about anaphylaxis or hypersusceptibility and an aggravation of all the symptoms of the disease. The inability to control the liberation of toxins (tuberculin) manufactured in the body of a tuberculous subject, accounts for the failure in many cases to effect a complete cure. If the tuberculous foci are liberating large doses of the toxins at irregular intervals over an extended period nothing but disaster could ultimately result to that individual. Ringer states that "While the bacilli are mainly responsible for the local conditions in the lungs, the toxins are the cause of the euaciation, the loss of strength, the febrile temperature, the rapid heart action, the night sweats—in short, the constitutional manifestations. The origin of this toxemia of tuberculosis can be ac

counted for only by the assumption that the toxins and soluble proteids manufactured at the site of bacillary invasion are taken into the blood and lymph streams and carried to all parts of the body."

CLINICAL RESULTS.

The final test of all remedies must be clinical results. Theoretically there are many remedial measures that are lauded to the skies, but when they come to the practical application prove dismal failures. This is not so with tuberculin. It has withstood the test of time. Enormous amount of literature coming from masters in this country, in England and on the continent are lending willing testimony to its inestimable value. Many comparative tables are daily noticed in the various journals showing the benefit derived as a result of tuberculin administration as compared with the untreated patients subjected to identical environments, etc. In the Johns Hopkins Tuberculosis Dispensary, conducted by Hammand and Wolman, in which they recently report that they have had fifty-seven cases of pulmonary tuberculosis on tuberculin treatment ("T. R." and "B. F.") for at least ninety days with the following results: Ten patients were apparently cured, in sixteen the disease was arrested, twelve were improved, in eighteen the disease was progressive and one died. In selecting the cases the stage or the extent of the disease is not considered. In the Out Patient Department of the Massachusetts General Hospital, Boston Consumptives' Hospital and the Good Samaritan Day Camp, tuberculin treatment was given the dispensary patients under the supervision of Drs. Hawes and Floyd. They report that out of 143 tuberculous patients treated with tuberculin ("B. E." and "B. F.") during the past four years, nineteen have died, sixteen have shown no improvement, while

108 have been benefited to a greater or less degree. They claim that in no instance have they been able to see that tuberculin has done the slightest harm; reactions have been rare and invariably of a very mild type. In incipient pulmonary tuberculosis they regard tuberculin as a factor in increasing body resistance and in maintaining this resistance so as to prevent relapses. In more advanced pulmonary disease tuberculin will often alleviate distressing symptoms, prolong life and occasionally help to arrest the process. In localized or "surgical" tuberculosis, tuberculin has a marked beneficial effect. They conclude by saying that dispensary patients can be treated with tuberculin not only with perfect safety, but with distinct benefit, providing that there is a close personal co-operation between patient and physician. Of course, it goes without saying that the outdoor hygienic, dietetic, etc., regimen was rigidly adhered to.

An interesting article by Lawrason Brown emphasizing early treatment of tuberculosis appears in the *New York Medical Journal*, November 20, 1909. He has compiled the ultimate results obtained at the Adirondack Cottage Sanitarium, covering twenty-two years. He finds that the records show that 52% of the patients in an incipient stage, 25% of the moderately advanced and less than 2% of those in the far advanced stages are alive. In other words, a patient in the incipient stage has at least twenty-six times as good a chance of permanent recovery as one in the far advanced stage. He says that not every patient with tuberculosis will recover, no matter how early his case is diagnosed and no matter how soon put under the most approved treatment. But in an early case a patient has twenty-six times better chances for permanent recovery than in a late one.

PERMANENCY OF RESULTS.

The question of paramount importance to all patients after they have been apparently cured is whether or not they will remain cured. It is manifestly apparent that the results obtained in tuberculin-treated cases are more permanent than in those treated without it. Patients who get well without treatment or with the usual open-air hygienic dietetic treatment are more apt to have a quiescence rather than a cure. This is shown by the fact that many of them will still react to tuberculin, which they would not do if they were cured, and also by the fact that a greater percentage of those suffer relapses than of the tuberculin-treated cases (Pottinger, p. 203). Trudeau, who has used tuberculin over a longer period of time in more cases and more conservatively than any other man in these United States, discusses the post-discharge mortality between patients treated and those that were untreated with tuberculin at the Saranac Lake Sanatorium. He says that 18% more of the treated incipient cases are living than those of the untreated, while 25% more of the advanced cases who received tuberculin are living than those who did not. In effecting a cure the struggle for mastery is essentially a local one.

Lymphocytes are prominent in the formation of the tubercle, and the wandering leucocytes participate together with connective tissue cells in localizing the bacilli. If the organism is successful in effectually localizing the tubercle bacilli, a more or less rapid process of disintegration or bacteriolysis ensues which destroys the bacillus and disposes of its products. On the other hand, in the so-called arrested cases where complete recovery has not taken place we find that in the center of the tubercle a great many cells have died in consequence of the direct and prolonged exposure to the toxin, and case-

ation of greater or less degree is the common result. This caseated material really protects the enclosed bacilli from further lytic action by the living cells. Owing to the restricted action of the pent-up tuberculin toxin, the body cells not composing the tubercle fail to get the proper stimulus to resist its action when the constitutional condition is in a favorable state for this. This fact forms the chief rationale for specific therapy in tuberculosis by tuberculins, for it is desirable to impress the whole organism with the specific stimulus in sufficient quantities and at proper intervals to maintain a high resistance (E. R. Baldwin). If tuberculin were not used in these arrested cases you are apt to find the fire still smoldering, sooner or later to break out into a serious conflagration. The pent-up toxins in the tubercles are now at the mercy of the non-immunized body cells. Any immunity now that results often comes too late to be efficacious in saving life. By the employment of properly-spaced doses of tuberculin in these cases there results a local stimulation of the tuberculous foci (tubercles) which shows itself as a hyperemia thereby causing more blood to be sent to the part and consequently new protective substances are brought to bear upon the bacilli in the foci of infection. The area of infection previously lacking in vascularity is not only flooded with a greater amount of blood, but with a blood whose immunizing properties have been greatly increased. Again, tuberculin does another thing and that is it produces a more rapid formation of fibrous tissue around the foci of infection. The irritation caused by the local reaction on the tubercle is responsible for this fibrous tissue change. From this we can readily understand that the addition of tuberculin treatment must not only increase the chances of cure, but must enable this result to be produced in a shorter time.

RESULTS DUE SOLELY TO TUBERCULIN.

The most convincing results as to the efficacy of the use of tuberculin comes from Bonney, of Colorado.

He selected forty-two cases of chronic pulmonary tuberculosis without symptoms referable to mixed infection. It was recognized that all patients should represent, if possible, the same general type and stage of the disease, and conform more or less closely to a fixed regime. It seemed highly desirable that there should be eliminated all sources of confusion arising from climatic influence or change of environment. To this end patients included in this group were selected with extreme care. In view of the uncertainties attending its employment, no individual was permitted to undergo the treatment whose general condition or previous progress had been entirely satisfactory or who exhibited appreciable temperature elevation. On the other hand, an effort was made in the selection of cases to include only those who, in spite of a continued residence in Colorado under appropriate conditions of daily life, had failed to secure an entire arrest of the tuberculous process. It was believed that more definite information concerning the effect of the treatment could be secured by limiting its application to those whose condition had been almost stationary for prolonged periods. Of all the cases comprising this group the average period of residence in Colorado, with practically unchanged environment, was two years and eleven months, the longest being ten and one-half years; the shortest six months. A remaining activity of the tuberculous process was present in all cases, as evidenced by physical signs, cough, expectoration and bacilli. A new method of treatment was hailed with enthusiasm by these patients as precursory of possible future recovery, this introducing a psychic element impossible of

elimination. In summing up he says that in no instance has he been able to detect permanent injury from the treatment. On the other hand, conspicuous improvements have been noticed in some cases. In the majority of the cases demonstrable progress has been established, but it is probable that in some cases the psychic element has been a factor of considerable importance.

A number of cases showed a material diminution of cough and sometimes its complete cessation. The sputum has been markedly lessened in many cases. In a few instances a conspicuous diminution of bacilli has been noted several months after the inauguration of this treatment. A gain in weight has been exhibited by several patients whose previous efforts in this direction had proved unavailing. In no case has there been a loss of nutrition. Of the forty-two cases, he reports in detail ten cases showing marked improvement. Of the remaining thirty-two in this group fifteen may be said to have exhibited some favorable effect from the administration of the remedy. In twelve there was no appreciable influence properly attributable to the tuberculin. Five exhibited an increase of cough and expectoration after each injection to such an extent that the tuberculin was suspended after three or four doses.

AUTHOR'S RESULTS.

Within the past six years I have been able to collect fifteen selected pulmonary cases in which thorough tests were given to fresh air, good food, carefully regulated living, rest, hydrotherapy, etc. With this treatment alone a distinct improvement was noted in all of the cases several months after its inauguration. Several continued to improve one year afterwards, while others seemed to have reached their road's end in from three to six months in spite of everything that could be done in the modern way of treating tuberculosis

with the exception of the employment of tuberculin.

The cases were favorable ones for the specific treatment. Many exhibited little or no fever. All had physical signs, cough, expectoration and bacilli.

Tuberculin was given with the following results: Four cases cured or arrested; two cases improved as shown by gain in weight, lessened cough and expectoration and loss of bacilli, physical signs are still apparent, but much improved; four cases improved as evidenced by increase in weight, diminished cough and expectoration with a marked diminution in the number of bacilli, and five cases unimproved.

Out of this number I have at present six to whom I am administering the tuberculin with slow, but progressive improvement. In a later communication I intend to discuss the entire fifteen cases in detail.

SHOULD TUBERCULIN BE USED ON A PATIENT WITH FEVER?

Pottenger is authority for the statement that a light rise of temperature due to the tuberculous process which does not exceed 101 degrees is best combated by a combination of the open air, dietetic, hygienic and tuberculin treatment. He says that it is not an uncommon experience to find a rise in temperature of this kind which has persisted for some time yield in a short period to injections of minute doses of tuberculin.

Krause has recently obtained excellent results from the administration of tuberculin to febrile patients. He reports a permanent disappearance of the fever in all cases and suggests at least a tentative administration of the remedy among a few patients who have resisted all other measures.

Bonney, of Denver, has quite recently had occasion to employ the tuberculin in six cases exhibiting persisting fever of

from 102 degrees to 103 degrees F. daily despite prolonged rest in bed in the open air. In three cases no appreciable effects were noted; in one the temperature receded within a few days to normal and has remained so for four weeks; in two cases the temperature has gradually receded to the neighborhood of 99 degrees and 99.5 degrees F. That such injections act beneficially I have been able to prove to my satisfaction for the past few years. Repeatedly have I seen such temperature yield to this treatment when they had refused to yield until the tuberculin was given.

Theoretically the above contention seems unreasonable, for it is generally believed that the fever is due to the system's being surcharged with toxins from the tubercle bacillus; and, it would seem that to inject more toxins would be only adding fuel to the fire. Prof. Wright offers us an explanation of this action. He says that not infrequently the machinery of immunization fails to work to its full capacity in spite of the fact that toxins from the invading bacteria are being poured out into the blood stream. At such times vaccines injected into the tissue may stimulate the formation of protective bodies where those circulating in the blood have failed.

CONCLUSIONS.

1. The efficiency of tuberculin as a therapeutic agent has been proved to such a degree that it has passed beyond the pale of controversy.

2. Its administration should always be combined with rest, hygienic, outdoor treatment and in the vast majority of instances should be subservient to this.

3. I am of the opinion that equal parts of the "bacillen emulsion" and "bouillon filtrate" represent at the present time the ideal therapeutic agent for the treatment of tuberculosis; for the reason that the

mixture would combine whatever immunizing properties that exist in either the tubercle bacillus or the culture fluid.

4. Statistics show that more than 20% more permanent cures have resulted when tuberculin has been employed than where

it has been omitted (Trudeau and Pottinger).

5. Many patients running a slow, but steadily downhill course, in spite of hygienic, dietetic and open air treatment, improve under tuberculin.

FAILURE TO REPORT COMMUNICABLE DISEASE A CRIMINAL DISREGARD OF LAW.

BY N. F. RAINES, M.D., RAINES.

THE physician, of all men, should set the example of obeying the law. He has more than the average intelligence, and is peculiarly fitted both by education and environment to be the mentor of his less-informed neighbors.

Even in the cities, where the layman is a pastmaster in all matters pertaining to the acquisition of the almighty dollar, he will at least sit up and take notice when his doctor orders him to be cautious about his health.

In the country districts, where the doctor is prophet, priest and king; where he is not only dictator in the sick room, but the counsellor and friend of his neighbors, the center of the social system and the impartial adviser in politics, he is largely responsible for the moral tone of the community. He is unconsciously the mold of public opinion, and should strive to fulfill the measure of his responsibility and to accomplish all that it is possible for him to do.

Occupying such an exalted eminence, the burden is upon him; he is his brother's keeper and should not shirk the duty he owes to his neighbor and himself. While it is true the community owes him a debt of gratitude, he should remember that this community is feeding Sallie and the baby.

If the boll weevil invades his fields; if hog cholera decimates his herd; if Texas

ticks infest his cattle, or glanders kill his stock, he hurriedly calls a meeting of citizens in their mutual interest. If some spectacular disease appears he at once sounds the alarm. The diseases of frequent occurrence, those diseases that are communicable, are too often treated with indifference. He treats them just as he would a case of malarial fever or of pneumonia. He surely knows that the only way to handle these cases successfully is by organized effort. He knows that his quarantine has no force in law. He knows that people will visit each other in spite of the world, the flesh and the devil—particularly if they are negroes. He knows that it is better for him to shift the responsibility to the shoulders of the authorities.

Then why, may we ask, does he not comply with the law and report these cases at once?

Sometimes it is rebellion against what he considers unwarranted interference of the powers that be. Often it is ignorance of the requirements. More frequently it is negligence. It is the province of the health officer to keep everlastingly at it and to insist and continue to insist that the reports be forthcoming. He must show some reason for the faith that is in him and demonstrate to the careless practitioner that the community will suffer

from his negligence; that such negligence is criminal; that it will prove a boomerang, and that he will himself be the sufferer in the end.

When the County Board of Health of Shelby County began to send out return postal cards we received 40% of replies. For the month of February we sent out 350 cards and received 107 replies, or about 30%.

I know that people will conceal cases of smallpox and resist all attempts at removal; many refuse to be vaccinated, but some doctors are so afraid of offending their patients that they will not report their cases. This negligence has cost Shelby County thousands of dollars in the recent past, besides endangering the lives of many innocent people.

The doctor should have the courage of his convictions and cease being a moral coward.

Sometimes a patient requires drastic measures for his recovery, and I think it is high time to give the doctor a little of his own medicine. If the authorities would exercise their prerogative and enforce the plain provisions of the law it would have a salutary effect on the recalcitrant M. D.'s.

It is said that the actual proportion in the United States at this moment is one physician for every 568 persons, which gives us twice as many physicians per thousand of population as England; four times as many as France, and five times as many as Germany. Owing to the laxity of our laws we have for twenty years past graduated into our profession three times as many men as are actually needed. Considering these facts it is a question of the survival of the fittest, and wise is that doctor who can correctly interpret the handwriting on the wall.

The assertion has been made that the inhabitant of a small village or a resident on an isolated farm must accept this poor

medical attendance or none at all. The fact is that the more expensively trained doctors will go into the country just as the poorly trained do and that the ill-trained and poorly-equipped men will go to the plow, where they belong.

There is a vast difference between the scientifically-trained physician of today and the able practitioner of earlier days, for clinical skill today is supplemented with aids which the generation before did not know. It is his duty to erect and maintain high standards, for as Bacon wrote, "Every man owes a duty to his profession."

When the doctor realizes that the demand of the future is to teach people that it is necessary to observe the laws of sanitation in order to prevent disease he will also awake some fine morning and find that the doctor who observes the law of the land in order to prevent the spread of disease is the doctor who is famous. Then, and not until then, may we expect concerted action in fighting our common enemy. The union between the doctor and the health officers must always be reciprocal if it is to be a true union.

I fully understand the demands on a doctor's time. I understand the ingratitude of an exacting public, and I know what it means to try to get something for nothing. It is the law, however, and the basic principle of the law is "The greatest good to the greatest number." No law can be enforced unless it is backed up by the sentiment of the community. The sentiment of the thinking, reading, substantial public will sustain the doctor who is keeping abreast of the times and employing up-to-date methods in combating disease.

DISCUSSION OF PAPER OF DR. RAINES.

DR. R. B. GRIFFIN, Tiptonville:

I am not a health officer. My brother is, and I am associated with the business a great deal.

I think Dr. Raines' paper is a very valuable one, and one to which more attention should be given than has been given in the past. I believe this subject is receiving more recognition every year, and I think the laws passed by our State will be enforced by the health officer more rigidly in the future than they have been in the past. There is not so much trouble in enforcing the laws in a small county like Lake County as there would be in a large county like Shelby or Davidson, where they have cities to deal with; but we know the great expense the county is put to in connection with reporting cases of smallpox and other contagious diseases. It is a big item. The court of each county should be taken care of by the doctors, and while we do not get anything for it, it is our duty to look after these things.

DR. JOHN A. WITHERSPOON, Nashville:

This paper is so valuable and important that I would like to say just a word. I did not have the pleasure of hearing it all. In this progressive age, if we have advanced in any one subject more than another, it has been along the line of preventive medicine, and it will fall, in my opinion, very largely on the health departments of this country to see that the good of the advancement made in preventive medicine is enforced.

There is now pending an act which Senator Owen, of Oklahoma, has introduced. He has introduced a bill in the Senate of the United

States trying to establish a Secretary of Health, putting him on exactly the same basis as the Secretary of War, Secretary of the Interior, etc. If that can be passed, and if proper laws can be enacted and enforced—and it remains largely for the doctors to educate public opinion so that they can be enforced—then the health officer's function will be a great one. I believe honestly that it is a reflection on any city to have an epidemic of any kind at this time—smallpox, yellow fever, typhoid fever, tuberculosis, all of these infectious diseases. If we could only educate the people to appreciate the fact they are infectious, and pass laws and see that they are enforced, I believe that we can lessen the mortality of these dreadful diseases by over one-half, and certainly drive out many of them entirely; so that I feel the co-operation of the profession with the health department of every county, city and State, and national, is essential for the protection of the people, and by having this co-operation we will fulfill our true mission.

DR. RAINES (closing):

At a conference of county health officers and municipal health officers I found that my own county was ahead of most of them, and that was one particular reason why I wanted to bring this matter before this association in order to insist that these reports be forthcoming and thereby prevent disease, which is largely the province of the county health officer.

THE PRESENT STATUS OF ELECTRO THERAPY.

M. R. FARRAR, M.D., NASHVILLE.

WE are all familiar with the extreme prejudice, in many quarters, existing in past years, against medical electricity, which includes all electrically operated apparatus used in the diagnosis and treatment of disease, the principal ones of which are the X-Ray, Static Machine, High Frequency D'Arsonval, Galvanic and Faradic Currents, Vibration, Finsen Light, or its modification, and many other modalities.

This prejudice was due, no doubt, in a large measure, to the fact that electricity has been a favorable field for charlatans

and quacks. It easily met their requirements because of the many mysterious phenomena observed in its production and use.

Again, members of the profession have, owing to their lack of knowledge of the subject, endeavored to prejudice the laymen against its use and to convince their more progressive patients that medical electricity is a fad. Naturally, we are prone to criticise that which we do not understand, or that which encroaches upon the domain which we have reserved for ourselves. Notwithstanding this

prejudice, the investigation and the work of reputable men along this line have established its real value and placed it on a sound, scientific basis, and at the present time, it bids fair to become one of our most popular forms of treatment. We are all familiar with the great strides that have been made in the development of commercial electricity, which is now applied in every conceivable way, as a source of heat, light and energy. One branch of commercial electricity is beautifully illustrated in the electric signs of this city. Medical electricity has developed as rapidly in proportion as the commercial current, and especially so, since the discovery of the X-Ray, which gave it an extraordinary impetus. Only in recent years have our medical schools and universities included Electro Therapy and Radiography in their regular course of study, and for that reason, the majority of physicians being unfamiliar with the subject, have been inclined to neglect it altogether, while others have become so enthusiastic over its use as to believe that it should be used in the treatment of practically all diseases. Both views are equally wrong. It is not a "cure-all." It has its limitations, which is also true of all the drugs that we use. On the other hand there is no question whatever of the value of electricity in the diagnosis and treatment of certain ailments; while in others it is useful merely as an adjunct to other methods, and in some instances it may be positively harmful. As in the use of drugs, we must use good judgment and common sense in the selection of the current we use in the treatment of any disease, and bear in mind that each form of current is limited, perhaps, to a small number of diseases. We are living in a fast age, and the demands upon us are increasing with our knowledge of symptomatology and pathology. Therefore, it behooves us to keep abreast of the times by

familiarity with the various methods of treatment and apply those which are best suited to each individual case. In the practice of Electro Therapy, a thorough knowledge of the fundamental principles of electricity is essential to success. Otherwise we cannot intelligently use it in the treatment of disease. If every physician employing electricity in his practice would devote as much time to the study of the subject as we are compelled to devote to the study of anatomy, he would divest it largely of its mystery and obtain a clear conception of the force he is employing. Many physicians make the mistake of buying elaborate and expensive apparatus about which they know nothing, not even the manipulation of the switches, and endeavor to use it as a therapeutic agent without further knowledge, only to meet with disappointment and disgust or to profit by sad experience.

Briefly stated, I might say that, with properly chosen currents, we are enabled to stimulate and massage the various muscles and organs of the body. We can stimulate or soothe the nervous system, affect blood pressure, check hemorrhage; likewise we may produce vasomotor constriction or dilatation. We are also enabled to effect local decomposition and the destruction of pathological tissue, and remove such blemishes as warts, moles, superfluous hair and birthmarks. None will question the value of the X-Ray in the diagnosis of fractures, dislocations and deformities, renal and vesical calculus, the location of foreign bodies in the tissues or cavities of the body, the extent of tubercular sinuses around joints, with the aid of bismuth paste, and the location of areas of consolidation and cavities in the lungs, tumors of the brain, aortic aneurisms, etc.

By the administration of bismuth, the X-Ray has enabled us to see the peristaltic action of the esophagus, stomach and in-

testinal track, thus enabling us to study the organs of a living subject in a way that was impossible prior to Roentgen's great discovery. It is also of unquestioned value in the treatment of certain skin lesions, chief of which are Epithelioma, and Lupus Vulgaris, and many cases of cancer have been reported as cured by its application. However, we should never advise our patients suffering with cancer to use the X-Ray in preference to surgical interference. Post-operative X-Ray treatment, however, should be given in these cases. By the aid of the fluoroscope or a skiagram, the surgeon is enabled to see the character of a fracture, so as to intelligently reduce it and again see that he has secured correct apposition of the fragments, thus avoiding deformities and suits for malpractice.

While potent for good, the X-Ray is not without danger to both operator and patient, and in its application, we should always be alert to the danger of burns, following prolonged or too frequent exposures. Reddening of the skin exposed, with tingling or burning sensation, should warn us of approaching danger, and our patients should be informed of these facts in beginning treatment. X-Ray burns are slow and difficult to heal, and leave a hard, unyielding and contracting cicatrix.

Many of the early operators, not knowing the danger, have been maimed for life. In others, it has been found necessary to amputate the hands and arms, while some have been so unfortunate as to lose their lives.

No man should undertake the use of the X-Ray in diagnostic and treatment work without special training under an experienced and skilled operator to guide him, while the correct interpretation of negatives and skiagrams of normal and pathological conditions is impossible without this training.

Not alone has the practice of medicine and surgery been advanced by Roentgen's discovery, but likewise that of dentistry and the subject of chemistry, it having been found necessary to revise the long-standing molecular and atomic theories, to include radiant matter, a fine subdivision of atoms.

In conclusion, I wish to say that medical electricity is a well-recognized procedure in medicine and surgery, having passed the experimental stage, is now established upon a sound, scientific basis, and that any physician who now condemns its use in competent hands, or looks upon it as a fad, will be classed among the "has-beens" or with those who are not well informed upon our up-to-date methods of diagnosis and treatment.

DISCUSSION ON THE PAPER OF DR. FARRAR.

DR. GEORGE R. LIVERMORE, Memphis:

I am not much of an electro-therapeutist myself, my experience being limited to the use of the galvanic current in the treatment of strictures of the urethra. But it does seem that in many of these cases the galvanic current softens the stricture and makes it more amenable to dilatation. I agree with the doctor very fully that it is not a cure-all. Every case does not respond to electricity, just as we cannot expect every case to respond to certain drugs we use. I have referred quite a few cases of enlarged prostate gland, with a more or less fibrous condition existing, to Dr. Lawrence for X-ray treatment, and I have found that there has been a marked reduction in the size of the prostate following the X-ray treatments.

DR. FARRAR (closing):

I might say, when we realize that state boards are beginning to include this subject in their examinations, it is very important that our schools should embody it in their course. Not every state, but quite a number, I understand, are giving examinations in electro-therapeutics. This shows conclusively that the profession throughout the country is realizing the importance of the subject and taking it up in such a way as to compel our younger physicians to become familiar with it.

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The Tennessee State Medical Association is not responsible for any statements or opinions of individuals published in this Journal.

McMINN COUNTY.

We have just received request from Dr. W. S. Moore, of Athens, Tenn., for charter for McMinn County Medical Society. We are informed that nearly every member of the profession in McMinn County is in full sympathy with the move-

ment, and the prospects are good for an organization which shall be representative of the profession in that section. We are glad to have McMinn County and wish them abundant success.

NOTICE.

THE AMERICAN PROCTOLOGIC SOCIETY'S PRIZE FOR THE BEST ORIGINAL ESSAY ON ANY DISEASE OF THE COLON BY A GRADUATE OF (NOT A FELLOW OF THE SOCIETY) OR A SENIOR STUDENT IN ANY MEDICAL COLLEGE OF THE UNITED STATES OR CANADA.

THE American Proctologic Society announces through its committee that the cash sum of \$100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the Secretary of the committee on or before May 10, 1911. The address of the Secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, *designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device used on the essay, and within the name, the motto or device used on the essay, and the address of the author.* No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays, if reclaimed by their writers within six months, provided return postage accompanies the application.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The competition is open to graduates

of medicine (not fellows of the society) and to members of the senior classes of all colleges in the United States or Canada.

The object of the prize and competition is to stimulate an increased interest in, and knowledge of Proctology.

The committee shall have full control of awarding the prize and the publication of the prize essay, and it shall be the property of the American Proctologic Society.

It may be published in the Transactions of the Society and also as a separate issue if deemed expedient. The committee may increase its membership if deemed advisable.

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1610 Arch St., Philadelphia, Pa.

LEGISLATION.

THERE has been introduced into the Senate a bill revising the present Medical Practice Act in Tennessee. As yet we are not familiar with the bill as presented, and cannot present its features to the members of the Association. However, we understand that the bill is along the lines of needed reforms, and that the members of the profession throughout the State will be called upon to support the measure by securing the support of other Representatives and Senators for the bill. Medical legislation meets with many serious drawbacks, by reason of the fact

that the profession at large fails to exert its influence in securing needed reforms, but it is to be hoped that at this time the profession will act promptly in this matter in order to take advantage of the opportunity presented and secure a proper regulation of this important matter. Already we are having calls from counties for information on this subject, in order that they may render whatever assistance they can in securing the desired results. We will keep in touch with the situation and give such information as we can from time to time.

SPECIAL SYPHILIS NUMBER.

THE editors of the *Interstate Medical Journal*, St. Louis, announce the publication of a symposium number on "Syphilis" for January.

The list of articles read as follows:

"The Influence of Syphilis on Civilization," Wm. Osler, M.D., Oxford University; "Present Status of the 'Noguchi Test,'" Hidego Noguchi, M.D., New York; "On the Means of Finding the Spirochæta Pallida, with Special Reference to the India Ink Method" (from the Laboratory of Michael Reese Hospital), J. S. Cohn,

M.D., Chicago; "The History and Methods of Application of Ehrlich's Dioxydiamido-arsenobenzol" (from the Royal Institute for Experimental Therapeutics), Lewis Hart Marks, M.D., Frankfort a.M.; "Recent Progress in the Treatment of Syphilis," H. Hallopeau, M.D., Paris; "Treatment of Syphilis with Ehrlich-Hata '606,'" Abr. L. Wolbarst, M.D., New York; "Syphilis of the Nervous System," Ernest Jones, M.D., Toronto; "Syphilis and Pulmonary Tuberculosis," Robert H. Babcock, M.D., Chicago; "Syphilis as a Cause of Pauperism," A. Ravogli, M.D.,

Cincinnati; "Giant Cells in Syphilis," John A. Fordyce, M.D., New York; "Personal Observations with the Ehrlich-Hata Remedy '606,'" B. C. Corbus, M.D., Chicago; "Syphilis and the Public," Isadore Dyer, M.D., New Orleans; "Sanitary Regulation of Prostitutes," Prince A. Morrow, M.D., New York.

In addition to the above, there will be four "Collective Abstracts" (critical reviews of recent literature in collective form) on (1) Ehrlich-Hata "606," (2) the Cerebrospinal Fluid in Syphilis and Parasyphilitic Diseases, (3) Serum Diagnosis of Syphilis, (4) Diagnosis of the Osseous Lesions of Syphilis by the X-Ray.

REPORTS OF COUNTY SOCIETIES.

SECRETARIES of the county societies will please note that the time for making annual reports is close at hand. Every effort should be made to have each member of the society in good standing when the annual report is sent in. The State Secretary will send to each County Secretary blanks for making out reports in due time to have these ready for the annual meeting which is to be held in Nashville the second Tuesday in April and to continue for three days—namely, April 11, 12, 13. If there has been a change made in the County Secretary, the State Secretary should be advised of that fact as soon as possible, so that the necessary blanks and other material may be sent to the new Secretary. Some societies have already elected officers and have forwarded reports. These will also receive the blanks, that the reports may be made in full in the regular form. I would call attention especially to the following instructions, so that County Secretaries may familiarize themselves with what is necessary to include in the report:

1. (a) Arrange the names of members of your county alphabetically. (b) Be sure you give the proper postoffice. (c) Date of graduation. (d) When licensed. (e) Alma Mater. (f) When he joined State Association, as indicated on blanks. *Each one of these items is most important.*

2. (a) Collect \$2 for State dues, which now constitutes subscription to the Jour-

NAL, from each member. (b) If any member has not paid dues when you return this report, put a star thus * after his name on the list. This will indicate who is entitled to the JOURNAL and who is not.

3. This list should be returned to the State Secretary not later than March 15, 1911. You can return it sooner if you have it ready.

4. (a) Make all checks, money orders and express orders for dues payable to *Dr. W. C. Bilbro, Treasurer, Murfreesboro, Tenn., and send same directly to him.* (b) *Do not send dues to the State Secretary, but notify him of how much you send the Treasurer.*

5. See that the names of the officers are put in the proper places for same at top of blanks sent you.

6. Section 2 of By-laws: Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for every fraction thereof; but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate.

7. Collect all information concerning members who have died since last meeting, and send this to Dr. A. F. Richards, Sparta, Tenn., who is Chairman on Committee on Memoirs.

If there is any information that you de-

sire, please write the State Secretary at once. Special instructions will also be mailed to each County Secretary early in

February. In the meantime, all data required should be gotten together and properly arranged.

THE MEDICAL PROFESSION MUST CHANGE ITS TACTICS.

WILLIAM J. ROBINSON, M.D., NEW YORK, PRESIDENT OF THE AMERICAN SOCIETY OF MEDICAL SOCIOLOGY.

He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with "new-thoughters," and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, how it is maligned, how it is lied about, how it is misrepresented, how it is "knocked" on every possible occasion.

We are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is necessity or not, drug dopers, etc., etc. We are denounced as a trust, monopoly, and any attempt of ours to organize, to pass laws protecting the public health, is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition, by our fear of the superior skill of our irregular rivals.

And the average physician who has not given the matter any thought has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how we are losing the confidence of the people, how the ground is slipping from under our feet.

As an illustration we need only mention the reception that has been accorded to the suggestion of a Federal Department of Health. The motives that actuate us and the objects of such a department were at once misrepresented, the people were

made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled, and in a short time a society was organized, which now claims a membership of one hundred and fifty thousand.

We physicians are, ourselves, to blame. When the irregular, fantastic and pernicious cults began to make their appearance, we paid no attention to them. We thought they amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, we remained silent. We considered it *infra dignitatem* to pay attention to them, and we thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

Our long and patient inactivity has been due to the false idea that truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it can take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every other line of human activity prevention is immeasurably superior to cure, and the right way to fight error is not to permit it to get a firm foothold. Error and superstition are

hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wide-awake, militant attitude. It is time that we actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of the false prophets wherever they appear, we can do much

toward destroying the influence of the quacks and the irregular cults. In short, we must throw off our exclusiveness, we must go out to the public and take it into our confidence.

The truth is with us—that we know; only we must not hide it under a bushel, and expect that its light will, without any effort on our part, penetrate into the darkest recesses of ignorance and quackery.

BOOK REVIEWS.

LIPPINCOTT'S NEW MEDICAL DICTIONARY.

Edited by Henry W. Cattell, M.D.
Flexible back, with Index. Price, \$5.00.

This contribution to medical literature is designed especially to meet the requirements of the medical student, the laboratory worker and the general practitioner, at such a price as will bring it within the reach of all, and in such a volume as will be adequate, thorough, accurate and recent. The editor has brought to his assistance those of widest experience in order that the volume might be broad enough in scope and accurate enough in information to make it absolutely reliable. Much valuable space has been saved by condensation of definitions especially applied to such parts of speech as adjectives, adverbs, participles, etc. In addition to this, where the etymological element is common, words are grouped together. Enough has been given, touching pronunciation, to indicate to the medical student the correct method to be applied. The accents are indicated so that he may be able to determine the common or accepted form of pronunciation. Innovations as to spelling have been avoided, which is to be commended. The work is somewhat encyclopedic in its character. A full exposition of weights and measures

is given and great care has been taken in order that they may be accurate and trustworthy. A feature of the volume is its system of cross-references, by which all shades of meaning as well as relationship of words or conditions are brought to the attention of the student. This is a very convenient and desirable feature of the volume. It is well illustrated, well printed and well bound, and as a dictionary will meet the demands of students and practitioners.

INTERNATIONAL CLINICS. Vol. 4. Twentieth Series. J. B. Lippincott & Co., Philadelphia and London.

Under the head of "Diagnosis and Treatment" two of the articles deal with Ehrlich's new preparation, Arsenobenzol ("606")—one by Dr. Henry W. Cattell, as to the use of this remedy in general conditions, with special reference to the method of using it and conclusions arrived at by the author; the other, an article by Dr. G. E. De Schweinitz and Dr. E. A. Shumway on the use of this remedy in a case of iritis papulosa. In the last case, though the patient was not treated except once by this remedy, it seems that the result was most satisfactory up to the time that the patient passed out from

under observation. We mention this case especially because of the fact that there has been some question as to the advisability of the use of this treatment for inflammatory conditions of specific origin in the eye. However, it has been used successfully, and as the method of administration becomes more perfected, it will doubtless be more generally used. A very interesting article is contributed by Dr. Lewellys F. Barker, on "The Methods of Examining the Blood of Greatest Importance for the General Practitioner." This article will prove of great benefit to those interested in the latest methods of examining fresh, unstained blood; counting the red and white corpuscles; estimation of the amount of haemoglobin, etc.

Under the head of "Medicine" are several interesting articles, while on "Surgery" we have an extended series of articles, ten in number, dealing with a wide range of surgical subjects, including the "Transfusion of Blood-Employing Veins Only;" "The Technic Aims and Limitations of Spinal Anesthesia in the Young;"

Surgical Tuberculosis of Joints and the Effects of Surgical Treatment;" "The Management of Four Kinds of Appendicitis;" "The 'Acute Abdomin' in Children, with Especial Reference to Acute Appendicitis;" "Traumatic Neurosis"—all of which are interesting and instructive.

Under the head of "Neurology," an extended article on "Hypnosis," as well as one upon the "Differential Diagnosis Between Epilepsy and Hysteria and Their Mutual Relationship," is given. An interesting article under "State Medicine," concerning "The Law Respecting Compensation to Workmen for Accidents in Great Britain and Its Operation." Another interesting article under this head is "Physicians' Fees Down the Ages." The volume closes with an article on "Wounds by Firearms."

As usual, all articles are from the pens of those of wide experience in the various fields covered and are always full of valuable information to the practitioner, the surgeon and the specialist.

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of the Tennessee State Medical Association

All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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A detailed map of the state of Tennessee, divided into its 95 counties. Each county is labeled with its name. The map is oriented with North at the top. The counties are arranged in a grid-like pattern, with some irregularities due to the state's shape. The names of the counties are written in a serif font, and the map is bordered by a thick black line. The map is titled 'TENNESSEE' at the top center.

Counties shown (from north to south, west to east):

- Sevier, Anderson, Morgan, Roane, Loudon, Monroe, Polk
- Jefferson, Macon, Putnam, White, Warren, Hamilton, Marion
- Madison, Davidson, Williamson, Rutherford, Cannon, Bedford, Coffee, Moore, Lincoln, Franklin
- Clay, Jackson, De Kalb, Van Buren, Shelby, Giles, Lawrence
- Scott, Hickman, Leake, Wayne
- Union, Carroll, De Kalb, Henderson, Chester, McNairy, Hardin
- Warren, Giles, Lawrence, Wayne
- Franklin, Giles, Lawrence, Wayne
- Shelby, Fayette, Madison, Haywood, Cherokee, Lenoir, Blount, Blaine, Hancock, Hawkins, Sullivan, Washington, Carter, Knox, Greene, Cocke, Seyler, Blount, Monroe, Polk

By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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MANIC-DEPRESSIVE INSANITY.

BY J. W. STEVENS, M.D., NASHVILLE.

PROGNOSIS in mental disorders is often of quite as great or greater importance to the family physician than is the matter of treatment, since so much of moment depends thereupon. The natural anxiety of the family and friends early and persistently force this upon his attention; but aside from this are other considerations of even greater moment, such as the determination of what disposition shall be made of the patient, and of what steps of a business and legal nature to advise. Manifestly, with regard to the latter, a different course may be pursued if the patient's disorder be one of the more fugitive psychoses than would be wise in one whose duration it may be reasonably expected will be prolonged or hopelessly chronic. Since prognosis depends wholly upon diagnosis, anything that will add to the clarity and certainty of the latter will not, I trust, be wholly uninteresting to you. Allow me, then, to briefly outline the more salient features of that rather complex psychosis known as manic-depressive insanity, which at the one time probably presents us more victims and a better prognosis than any other type of mental disorder.

By manic-depressive insanity we mean that peculiar symptom-complex manifesting itself in recurring attacks of mental alienation, with intervals of normal mentality. This interval is very variable in length, and may be of many years dura-

tion. The individual attacks in the manic phase are characterized by a state of excitement with elation and euphoria, talkativeness with incoherence or looseness of ideas, distractibility, and increased motor activity; and in the depressed phase by emotional depression, despondency and apprehension, depressing and self-accusatory delusions, and psycho-motor retardation; an especial feature of the course of which illness being the absence or very infrequent occurrence of true and permanent mental deterioration. Conditions denominated the "mixed states" are seen, wherein are simultaneously presented the fundamental, but modified, symptoms of both the manic and the depressive phases. Likewise, too, do we not infrequently meet with conditions of depression, occurring particularly in young women, the course of which illness is anomalous insofar as is concerned the psycho-motor retardation, but which is presented in recurring attacks like the classical manic-depressive insanity under consideration, which in all probability belong in this category. Furthermore, while recurrences are characteristic and the rule, there are exceptions, though it is considered that once the condition is established, it is to be looked upon as a constitutional state, and that from some not understood cause, the essential and inherent tendency of the disorder is toward recurrence.

Under this heading there are grouped

by Kraepelin and his followers the great majority of those conditions formerly described as simple mania, recurrent mania, circular insanity or the *Folie Circulaire* of the French, simple melancholia and recurrent melancholia, a study of all these conditions viewed as to their symptoms, course, termination, and the subsequent life history of the patients so affected, seeming to justify this nosology.

INCIDENCE — Manic-depressive insanity furnishes from 10 to 15 per cent of the admissions to institutions for the insane, being, therefore, the most common psychosis met with except *dementia præcox*.

AETIOLOGY—In the aetiology the factors may be grouped as *predisposing and exciting*, and in each will be largely the same causes as we find acting in the development of all psychoses.

PREDISPOSING CAUSES—Here hereditary predisposition is the factor of greatest importance, being present in about 70 per cent of the cases. As furnishing this predisposition are here to be grouped those progenitors who, without necessarily having developed definite neuroses or psychoses, yet present the various stigmata of degeneracy — the ill-balanced, the genius, those showing marked peculiarity and eccentricity of behavior, mysticism and undue religious zeal, alcoholism, criminality, prostitution, etc. Syphilis, tuberculosis, and cancer in the immediate forebears are considered to be often predisposing causes in the offsprings, as is, also, consanguinity of parents, illness of the mother during pregnancy, premature, and, possibly, instrumental delivery. These, to repeat, are but the hereditary or predisposing causes of psychoses in general, and not especially so of this one in particular, and merely furnish the degenerate basis upon which alienation in general may develop and flourish. Such predisposed individuals, in addition to the

physical, may show so markedly the mental stigmata of degeneracy as to have been marked as strange and peculiar all their lives.

The condition occurs more frequently in women than in men.

Post-natally we are to look upon poverty, with its coincident underfeeding, unhygienic modes of life, and deprivations as decidedly predisposing factors toward mental disorders.

EXCITING CAUSES—Upon this basis of degeneracy we have acting the exciting causes of strain and overwork, nervous shock and stress of various kinds, alcoholism, child birth, the incidence of acute disease, etc. The puerperium produces about 10 per cent of the cases in women. No age is exempt, though the majority of cases initiate between the years of 20 and 35.

PATHOLOGY—Here, as is so often the case in mental diseases, we have no demonstrable pathology. It has been declared by some that in states of mania there exists a cerebral congestion, while in the depressive phase we have to do with the opposite state, *viz.*, a cerebral anemia. Others declare this disorder to be due to a toxæmia, that the milder degrees of poisoning result in mania, while an excessive toxæmia causes the depression. None of these theories are satisfactory, and we must admit ignorance of the true pathological cause.

SYMPTOMATOLOGY—As a foreword to the brief description of the symptomatology which I shall attempt to give, I would emphasize certain striking peculiarities of the disease, an understanding and appreciation of which are necessary to a clear conception of the condition.

The first of these is the widely varying character of the different phases of its manifestation, at one time that of boister-

ous, tumultuous, happy mania, and next that of depression, despondency, sluggishness and inactivity, two conditions an analysis of whose symptoms will show to be as completely antithetic as could be conceived. In the manic phase the patient is elated and happy, in the depressive state despondent and miserable. In mania there is a great pressure of activity and an increased motor output; in the depressed state a condition of sluggishness and inaction; in mania there is a facilitated release of voluntary impulses, in the depression, a retardation and obstruction to their flow. Still other psychic antitheses might be traced, but those indicated are sufficient for the purpose.

The second of these peculiarities are the sudden transitions from the excited to the depressed state, and *visa versa*, not infrequently seen arising without external or demonstrable cause.

Finally, as worthy of remark in this connection, is the occurrence of successive attacks without apparent cause.

MANIA—The manic state varies greatly in the degree of its intensity, but the fundamental symptoms will always be demonstrable. Its essential and characteristic symptoms are an unstable emotional attitude, usually one of elation with uphoria; a facilitated release of voluntary impulses, with a consequent increase of psycho-motor activity; incoherence of thought, with flight of ideas; and distractibility. Expansive or persecutory delusions, occasional hallucinations, and clouding of consciousness occur when the condition is very pronounced.

The picture of mania is, no doubt, familiar to you all. The patient is happy and vivacious, restlessly busy at a multitude of things, boisterous, unruly, incoherently talkative, noisy, laughing and singing by day and by night, and altogether a very turbulent and troublesome person to have around.

The emotional attitude is ordinarily one of happiness or extraordinary well-being, so that the patient feels fine and the outlook upon life is particularly bright. Quite as characteristic as the elation, however, is the emotional instability and hypersensitiveness, so that in this regard these patients are like April weather. At one moment they are happy, vivacious and offensively friendly, while in the next breath they are angry and abusive or tearfully sad, these changes corresponding to the ever varying content of thought incident to the flight of ideas and distractibility. The degree of this emotional motility is truly wonderful in the well marked case, and must be seen to be appreciated. A few days ago I entered the room of one of my patients, watch in hand, and without any remark from me save a simple salutation, for five minutes watched the play of her emotions. At first she was hilariously happy, greeted me pleasantly, and started into a humorous recital of something that had just happened. From this she quickly drifted into the discussion of a wrong that she imagined I had done her, at first sarcastic, and then in a moment profanely abusive and opprobrious. Next, the thought of her husband, with his sacrifices and sufferings on her account caught her attention for a moment, when she began to weep copiously. Rising to take my departure, I spoke a few pleasant, cheering words, whereupon the tears for her husband and the anger at me disappeared in an instant, and she called out a gay goodbye. All this change, remember, occurred in the short space of five minutes. In the milder grades of the disorder this instability is not so marked as in the above related example, but is so to a less degree. As a part and parcel of the elation there exists a sense of well being and self-satisfaction, so that the patient proclaims that he never felt stronger and better in his life, and

has a wonderfully good opinion of himself and all that pertains to himself or his.

The above description of the emotional state will indicate something of two other phases of the mental condition, *viz.*, the *looseness of ideas and distractibility*. There is a greatly facilitated release of voluntary impulses, resulting in a mental state in which the patient gives expression to his ideas just as they come into consciousness. As a result, he is extremely loquacious, and when the condition is well marked, may talk, laugh, sing and scream almost constantly. His conversation is incoherent and disconnected, the extent of this varying with the degree of excitement. He lacks the governing restraint of a goal idea, the resulting being a constant wandering off into every mental bypath that he comes to. One idea being expressed, another is suggested through sound or intellectual association, just as it is thus *suggested* to a normal person. The latter, however, restrains and controls these tendencies to divergence, and keeps to the course of thought leading up to the particular idea that he set out to express and tell about. The normal individual sets out to relate and describe a certain incident in a few sentences, which he does, each subordinate idea expressed being pertinent to the final or goal idea, each word and thought being duly correlated to this end. The manic patient, on the other hand, can scarce do this at all, even under specific effort, save in the mildest cases. He starts out to relate an incident, but before he has said a dozen words he has wandered from the subject, and is soon talking about something else, it being possible, however, at any point to trace back a certain relationship and connection between each idea so expressed and the one that immediately precedes and follows it, or to the influence of some happening in the surroundings that catches and directs the attention. This symptom will

vary all the way from a simple prolixity and circuitousness of thought in the milder types to a veritable word salad or production of simple sound associations, without meaning, like slam, dam, jam, bell, well, tell, hang, dang, slang, etc., in the extreme conditions of excitement. Though the patient is always very talkative, frequently to the extent of a constant clatter, the number of central ideas is comparatively limited, there being a great many words about a very few things.

Distractibility is the term applied to the quick shifting of the attention from one thing to another, in effulgent cases being so marked as to render it impossible to hold the patient's attention upon any one thing for more than a few moments. Any sound or movement in his surroundings catches his attention for a moment, only to have it quickly diverted by something else, as first one stimulus and another impinges upon his sensorium. This distractibility is technically spoken of as *internal* and *external*, the one relating to the oscillations of attention from internal association of ideas and explaining the phenomenon of flight of ideas, the other to the influence of external stimuli.

The *facilitated release of voluntary impulses* give rise to that condition often spoken of as *pressure of activity*. There is a great increase of activity, both of the body and the mind, in the one case manifesting itself in restlessness, business and an abundance of energetic effort in every direction; and in the latter case, in great loquacity and the conception of many new schemes and projects. Because of its ready release, the tendency is for the immediate execution of every impulse, and with the extraordinary energy that these patients always have, the motor output is wonderful. They are busy from morning to night, and often through the wee hours of the latter. They will think of a thou-

sand things to do and for everyone else around them to get busied at, are constantly on the go, this passing on in the well marked case to unruly boisterousness, laughing, shouting, singing, dancing, destructiveness, etc. At the fastigium of the excitement it is impossible to keep the patient still or quiet for more than a very short period at a time, and even when confined to bed, the restlessness of both body and mind continues.

In not a few cases *delusions* are entirely absent, but when present are expansive or persecutory in character. They are correlated with the state of elation and egotism existing. The patient may believe himself to be possessed of great wealth, power and authority, and may even declare himself to be divine. More commonly they believe they have some mission to perform, that their extraordinary abilities have pointed the way to the acquisition of a fortune, etc. In the delirious states the delusions may be most fantastic in conception, and very transient and changeable. Delusions of persecution arise from the exercise of the necessary control and restraint, or from a failure to forward their schemes.

Hallucinations are infrequent, save in the delirious states, and endure for but a short time.

Consciousness is clear except in the more extreme cases, so that the patient knows his whereabouts, the dates, the identity of those about him, etc., though he may make playful statements that would indicate the contrary without careful inquiry.

Memory is good so far as the unstable attention will permit, so that such impressions as are arrested are very well retained.

Considerable *sexual excitement* may be present, more noticeable in women than in men. This, for very obvious reasons, is a matter of very great practical im-

portance in the mild cases in women not confined in institutions.

THE DEPRESSIVE PHASE, OR TYPE—This type is susceptible of briefer description than is the manic, because the activity of the patient is so much less that there is not so much to tell about.

This state is characterized by an *emotional attitude of depression, dejection and gloom*, with sometimes *fear and anxiety, depressing delusions, psychomotor retardation, a dearth of ideas, a diminution of motor activity*, with frequently *hallucinoses* and more or less *clouding of consciousness*.

The emotional condition is one of *depression*, and, while as a point of differentiation from melancholia of involution the emotional pain is much less, yet the mental distress of these patients is sometimes great. The condition, however, is one more of persistent gloom and depression, than that of the keen, torturing, damning mental agony met in other conditions. These patients always give one the impression that their emotional feelings have been more or less deadened or blunted, so that weeping, great agitation, and an active play of emotion will not be their ordinary state, though occasionally present for short periods.

With this depression, *dread or apprehension* is very frequently present, which may be of an indefinite character, so that the patient may not himself know what it is that he fears; or it may be associated with distressing and terrifying delusions, so that he fears bodily injury is about to be done him or his loved ones by those about him. In response to these delusions, which may be very terrifying, considerable agitation, with screaming and struggling may be shown.

Delusions of self-accusation are frequent, oftentimes with a distinct religious coloring, so that the patient feels that he has been guilty of many wrongs, that God

has deserted him, that he is eternally damned, etc.

Psycho-motor retardation is the most characteristic symptom of the disease, and the one upon which the diagnosis must oftentimes depend. *It is an impediment, or obstruction, to the release, or flow, of voluntary impulses.* Instead of the facilitated release of impulses seen in the maniacal state, we have here the direct antithesis. All the mental machinery is rusty and clogged, so that every mental action demands a distinct effort to overcome this resistance. The result is a slowness and hesitancy of all thought and motor activity, and a decided diminution of the mental and motor output. The patient has few ideas, comprehends with less than the wonted facility, and is hesitant, sluggish, or inactive. He talks slowly, not infrequently failing to finish his sentences, and obeys commands or answers questions only after a noticeable interval. Sometimes this psychic retardation may be strikingly demonstrated by the slowness with which the patient recalls and relates, in response to questions, the major and most important facts in his life, such as his age, birth place, date and place of his marriage, the number and names of his children, etc. A reasonably close observation will disclose whether this is due to a true loss of memory or to the condition under discussion. In the milder grades of the disease this symptom will, of course, not be so pronounced, but in a modified degree it will always be found. In the more extreme cases it may proceed to a state of stupor.

Hallucinations are comparatively common, and are usually of a depressing or terrifying character.

Consciousness in the well marked cases is often considerably clouded, so that the patients may apprehend and comprehend with much difficulty, and be much confused as to the identity of those about

them, the nature of their surroundings, their whereabouts, and the other facts of orientation.

Ideas of *suicide* and attempts at the same are frequent and call for the closest watching. This danger is greatest at the beginning and toward the end of an attack.

THE MIXED STATES—The mixed states are rather more common, I believe, in the text-books than in the clinic. That is to say, a state that would not be readily classed as either depressive or maniacal is not of frequent occurrence. Mixed *symptoms*, on the contrary, are very common. By this I mean the transitory occurrence in the manic phase of some of those symptoms characteristic of the depressed type, and *visa versa*. Thus, the maniacal patient may in the midst of an otherwise typical attack of manic excitement, suddenly for a short period, or even for a few days, give expression to depressing or self-accusatory delusions or ideas of suicide, or more commonly, transient spells of weeping without a cause in external circumstance, and some retardation may be seen; or again, which is rather more striking, a laugh and some effort at facetiousness may break like sunshine through the clouds of gloom and despondency enveloping the depressed patient. Such occurrences are of profound diagnostic importance, but I shall omit any more detailed description of the mixed states than the above, as being of much more interest to the alienist than to you as general practitioners, who are only interested in the more characteristic and salient features of the illness in general rather than in these fine points of sub-classification.

Before leaving the subject of symptomatology, I feel like emphasizing the fact that I have drawn the above clinical picture with strong lines, and described the condition as seen in the well defined, full-

fledged, even extreme state, and that there are many cases, not alone in their incipency, but throughout their course, wherein the symptoms are by no means so pronounced. Thus, in the mildest cases of mania, spoken of as hypomania, little abnormality may be noticed other than a slightly increased activity over that of the individual's habit, that he is rather more talkative than usual, more egotistical and self-assertive, and that he tends to the undertaking of new schemes and enterprises without the same degree of calmness and accuracy of judgment as is his wont. Sleep is more or less disturbed, he does some peculiar and erratic things, and becomes extravagant in his expenditures. In women, an increase of sexual appetite, and associated departure from the usual habits of modesty may be the only noticeable evidence. Depressed attacks, on the other hand, may be equally mild, and show themselves only in a condition of despondency, diminished activity, and lack of the usual ambition and vivacity. The patient feels that he is not up to par, that there is something wrong with him, worries unnecessarily about his business affairs, and may even attempt suicide. These milder attacks are frequently only recognized in retrospect, it not being suspected at the time of their occurrence that the patient was mentally aberrated, this fact being only realized after the occurrence of more pronounced attacks.

DIAGNOSIS—The diagnosis should not be particularly difficult, especially if there be a history of previous attacks of mental disease. This latter is, of course, by no means conclusive proof that a condition presented to us is manic-depressive insanity, but the majority of persons presenting successive attacks of alienation are suffering from this disease so that such a history is of presumptive aid, the value of which is greatly heightened if a careful history reveals that these previous out-

breaks correspond to the classical attacks of this disorder in one or the other of its phases.

Mania will have to be differentiated from general paresis and the excited states occurring in dementia præcox. From paresis it will be diagnosed by the physical signs of that disease, *viz.*, pupillary anomalies, speech defects, disorders of the reflexes, tremors, inco-ordination, convulsive seizures, etc., and in the occurrence of the characteristic memory defects of paresis. While in paresis there is often much disturbance and looseness of the train of thought, a clear-cut, classical flight of ideas is seldom heard. In paresis there is rarely seen the pressure of activity characteristic of mania, nor is the restlessness that is seen so uniformly purposeful and so closely dependent upon the content of thought.

From mania the excitement of dementia præcox will be recognized by the evidences of dementia characteristic of that disease, as is shown in the defective memory, lack of strong and persistent feeling upon any subject, indifference to and lack of affection for relatives. Active hallucinosis, silly, foolish laughter, mannerisms, and stereotypy speak for dementia præcox.

The depressed type is to be differentiated from the depression seen at the beginning of dementia præcox, the depressed types of paresis, and melancholia of involution.

Dementia præcox will be recognized by the above mentioned evidences of dementia, cataleptic symptoms, the more active hallucinosis, and the silly laughter characteristic of that disease. Upon the presence or absence of psycho-motor retardation the diagnosis will chiefly depend, however, the presence of this symptom in well marked degree being pathognomonic of manic-depressive insanity.

The depressed types of paresis will be recognized by the physical signs and the

dementia of that disease, and the absence of psycho-motor retardation.

The diagnosis of this condition from melancholia of involution is oftentimes very difficult when the first attack occurs at the involutional period. It will depend upon the presence of well marked psycho-motor retardation, this when pronounced being pathognomonic of manic-depressive insanity. Retardation, however, may occur to a slight degree in melancholia, so that the matter resolves itself into a correct valuation of this symptom. Hallucinoses is common and active in manic-depressive insanity than in melancholia, and the emotional distress is less keen in manic-depressive insanity. The occurrence of mixed symptoms, such as transitory periods of cheerfulness, hilarity, and restlessness would confirm the diagnosis of manic-depressive insanity.

PROGNOSIS—The prognosis is good so far as recovery from the individual attack is concerned, but poor as to permanent freedom from recurrence. Probably not more than 1 or 2 per cent remain chronic. Pronounced dementia is very rare, though some intellectual deterioration and instability are more common. Death occurs occasionally from exhaustion in states of great maniacal excitement, or from inanition in neglected cases, and suicide will claim a few victims.

COURSE AND DURATION—The duration of the individual attacks is quite variable. Those cases running their entire course as the manic phase, or with alternating manic and depressive periods, have an average duration in the majority of cases of eight or ten months. There is considerable variation from this both ways, however, some recovering in a much shorter time, while others are much more prolonged. Some 10 or 15 per cent of the manic cases run a course of from two to five years, and in a few, rapidly succeeding attacks continue throughout life.

Those presenting the purely depressive symptoms run a course as a rule of from two to six months.

TREATMENT—This should very rarely be undertaken outside an institution, the danger of suicide or injury of relatives in response to delusions in the depressed states, and the restlessness and noisiness of the maniacal patient being too great to permit it. Because of the increased sexual excitement present in the mildly maniacal women the closest supervision is necessary.

In the treatment of the maniacal forms the indications are to control the excessive activity and talkativeness. This is best accomplished by rest in bed, the removal of all distracting influences, and the exercise of kind but firm authority. If the restlessness and talkativeness be not restrained, the patient thereby increases his own excitement. The ideal method of treating an excited maniacal patient is to completely isolate him from all other patients in a quiet room, with only a single nurse, who must be possessed of such personality as to enable him to exercise authority and control of this particular individual.

The patient should be made to remain in bed and his restlessness and talkativeness checked as far as possible. Every idea to which he gives expression simply serves to call up another to his mind, for which there is an equal desire for expression. When it is not practicable to thus isolate the patient with a special nurse, the same idea should be carried out with such modification as the circumstances demand. At times it will be necessary to resort to sedative measures. Excellent results follow the use of the hot or cold pack, or the prolonged warm bath. Sulfonal, trional, chloral and the bromides are safe and effective sedatives for these patients. The patient should be kept in bed until the tendency to overactivity

and talkativeness has in a large degree disappeared, and after being allowed up, excitement and irritation should be avoided. In the care of the depressed cases there are no particular points to be borne in mind other than those of general hygiene, forced alimentation is required, and close supervision to prevent suicide.

DISCUSSION ON THE PAPER OF DR. STEVENS.

DR. S. S. CROCKETT, Nashville:

It is unfortunate that the branch of diagnosis and treatment of disturbances that occur and manifest themselves in the highest psychological activity of the human body as mental phenomena should be separated, as it were, into a class to themselves. How many times have you heard a paper read in this association on this subject? I say it is unfortunate, because we ought to know more about this condition. We know but little about it, and we owe a debt of gratitude to Dr. Stevens for bringing the subject before us. The superintendents of our public asylums rarely appear here with contributions on this subject. I doubt whether many of them are members of this association. The subject is of the utmost importance to you and to me, because we are the people who are confronted with the proposition first, and we are the people that have to say correctly or incorrectly what ought to be done with these patients. We are the people that are put on the witness stand to testify when the mental trouble arises. We are the people that have to testify when we make an effort to commit these unfortunates to some public institution. We devote too little time to the subject, and too little is known about the details of mental troubles. I doubt whether there is any gentleman here who is competent to discuss the details of this form of mental aberration; indeed, the names that are given to these mental disturbances and their classification shift so rapidly, and the condition is known by so many different names, that it is hard to keep up with them. I doubt whether any of us here would be able to draw a prompt distinction between manic-depressive insanity, dementia præcox and parietic dementia. I doubt whether some of us know what they are or not; but the question of sanity or insanity comes up for us to determine. For instance, we are asked the question whether this man is insane or not. We have to make out a certificate; we have to say

whether he is insane or not, and how much timidity do we show? We call it nervous depression. We say that the man is mentally upset. We use indefinite expressions of that kind, and yet we know that the day for the restoration of the man is gradually passing. What I would plead for is to establish a few cardinal points by which we can say whether a man is out of his mind or not. That is the question for us to decide. The matter is often obscured by another question, and that is as to the legal responsibility of the individual, and that question gets mixed up with the one as to whether the man is insane or not. The next question is whether the individual is morally responsible. We have nothing to do with the question of responsibility, but our first question is to determine whether he is insane or not. First, we can determine whether a man has an hallucination or delusion. We can determine whether he has imperfect perception; whether he hears things he ought not to hear, etc. If he insists that a certain thing is there when it is not there, then we are dealing with a man who has an hallucination. Another question which confronts us is insane belief. It is difficult to determine what an insane belief is, because the truth is so hard to know. There are so many differences of opinion in regard to the truth. I might get an impression that any physician here was insane, and that he was trying to do me some bodily injury; I might believe that firmly, yet it would be difficult to prove it.

DR. J. J. WALLER, Oliver Springs:

The reading of this paper has forcibly reminded me of an experience I had a short time ago with a lady patient, fifty-three years of age. My first knowledge of her case was concerning attacks which seemed to be hysterical in nature, but in eliciting the past history I learned there had been mental aberrations of minor importance for some two years back. These hysterical seizures every few days would become very violent. Finally her mania became intense, so much so that she lapsed into a state of depression. She became unconscious, and finally died. I was perplexed to know just why she should die so soon. The treatment was *nil* in the case. In fact, I hardly knew what to do, but in studying the history and the conditions present, I got one very important thought, and that is in all cases of hysteria to be very suspicious of what is lurking behind, and to regard no case of hysteria lightly, as it may be the forerunner of something very serious.

DR. G. G. BUFORD, Memphis:

I do not feel competent to discuss Dr. Stevens' paper, but the idea suggested by Dr. Crockett seems to be fraught with considerable interest to us all. The nomenclature of medicine, especially that applied to diseases of the nervous system, and more especially applied to mental phenomena, are the most misleading things we have in medicine. All of these terms and names have been given as expressive of some phenomenon, some evidence manifested to us, and not of the condition underlying and producing the disturbance. If we will remember that all of the forces of the brain are to produce energy; if we remember the cell has a fourfold function of receiving, generating, storing and emitting force, and there is nothing else in the economy except the brain cells of the cortex that can do this, and this is modified by toxins, by pressure, by quantity and quality of the blood supply, leaving out of the question altogether the names that have been presented as expressive of these conditions, and remembering the condition lying behind them, these questions of interpreting the phenomena of mental activities will be very much simplified. I told my class not long since there is a crown of immortality awaiting the man who will write a

book on nervous and mental diseases based on conditions, and not upon clinical histories.

Carrying the question a little further, a few years ago I wrote every prominent alienist in the United States and medical publishers and expressed a desire for a work which would show the conditions of the brain cells under the influence of the different toxins. I find no such work in the United States, and only one Spanish work, and I could not read Spanish. Dr. L. F. Barker has about ten pages in his book on the "Anatomy of the Nervous System" devoted to this subject. That is the only thing in the English language I have seen. The cells of the brain are influenced or impressed by the quantity and quality of the blood, and when there are bio-chemical changes generating forces within the cells themselves, if kept up for a considerable time, the cells are so altered that they do not return to their normal condition, and then any toxin in the circulation will produce hyperirritability of these centers. A lessened amount of blood will produce a hypo-condition; an increased amount of blood will produce a hyper-condition, and if we interpret these things from our knowledge of the function of the cells themselves and leave the nomenclature of mental diseases out of the question, we will solve many of these questions.

✓ THE SURGICAL ASPECT OF STONE IN THE KIDNEY.

BY J. A. CRISLER, M.D., MEMPHIS.

IN ORDER to meet the demands of this modern civilization with its airships and wireless telegraphy, things surgical must be lifted from the stratum of guesswork and uncertainty and elevated to a degree wherein accuracy and exactness eliminate all speculation.

In dealing with nephrolithiasis we are brought face to face with a multitude of surgical problems that have long been a baffling puzzle to both physicians and surgeons for many ages. The greatest source of uncertainty, as is common with all human ills, has been found to lie in our inability to make an accurate diagnosis of stone in the kidney.

We have tried hard to interpret the

symptomatology and have found that this cannot be done except in the very rare typical cases. We have found that the diagnosis is not "a one-man job," and I fully agree with Dr. Bevan, that this condition offers the best opportunity for teamwork. In other words, the surgeon, like the surgical part of the work, must come in last.

In the first place, clinical features of the case must be thoroughly studied and analyzed and an effort must be made to comprehend and classify the manifold symptoms that may be present in any individual case. The symptoms presented may be few or many, for be it understood that a stone in the kidney or stones in its

neighbor, the gall-bladder, may or may not be productive of symptoms sufficiently pronounced as to invoke medical or surgical aid.

That nephrolithiasis does exist as a primary condition wherein the stone formation occurs independent of any apparent pathological changes in the kidney *per se* or secondarily as a result of a pathological state of the kidney, which has induced the formation of stone, the situation is not materially altered so far as concerns the diagnosis.

The symptomatology enjoys a range of such widespread nature as to probably place this condition in a class entirely its own, and I might say that in none of its numerous phases can we find an unaltered train of symptoms that could be called fairly pathognomonic, and just here is where the one-man worker encounters where the one-man worker encounters

The etiology of renal calculi has never been satisfactorily demonstrated. Bevan¹ is inclined to the opinion that the causative factors are found in a low grade mycotic infection and like gall-stones, can be produced from the infections of the typhoid or colon bacilli.

Cunningham & Watson² suggests the cause of kidney stone to be due to some of the abnormally performed steps of body metabolism, following which crystals of some of the urinary salts in excess appear in the urine as formative elements of renal calculi.

One of the difficult problems in the etiology is trying to account for the various differences in the composition of stones. Some are composed mainly of calcium oxalate, some are uric acid, some phosphatic and others mixed in various proportions.

Johnson³ suggests that if an organic nucleus is necessary, such may consist of a single degenerated blood cell or the minutest fragment of mucus.

The symptomatology is interesting and delusive. Pains can be found, caused by renal calculi anywhere from the shoulder blade to the sole of the foot. The anterior crural nerve is frequently affected. Pain in the bladder and in the genitalia, in the groin and in the loin belong to this condition. An acute pain caused by a stone obstructing the ureter may produce profound shock, nausea and vomiting, with referred pains any or everywhere similar to a Dietl's crisis. Bevan has concluded that this pain is due to intrarenal pressure, caused by a sudden blocking up of the kidney outlet and not to the passage of the stone through the ureter, which he declares positively causes no pain whatever. In making the differential diagnosis between a renal colic due to an occlusion of the ureter and causing a sudden accumulation of urine in the pelvis of the kidney, we must invoke the aid of the internest, the microscope and the X-ray, because the symptoms might be those of many other conditions, particularly where the stone is situated in the right kidney or ureter, it is likely to be confused with or mistaken for an attack of appendicitis. Even a man with broad experience in dealing with these two conditions is not immune from error when it comes to their differentiation and in some cases the greatest possible caution and care must be exercised and every available means must be brought to bear before an exact separation can be made.

Some patients present only bladder symptoms and in one of my cases referred to me by Dr. A. E. Cox, of Helena, Ark., the patient had been subjected to a supra-public cystotomy in the hope of

¹The Journal of the American Medical Association, Vol. LIV, No. 9. Arthur Dean Bevan.

²Cunningham & Watson, Genito-Urinary Diseases, Vol. II.

³Johnson's Surgical Diagnosis, Vol. II.

finding a stone present in the bladder before Dr. Cox saw the case. Sometimes the pain is situated in the opposite kidney; sometimes in the knee or in the heel and many times a diagnosis of pleurisy or pneumonia has been made where the pain was situated above the diaphragm.

All of the authors have agreed upon the infinite value of the X-ray in locating a stone and clearing up the diagnosis. This part should be in the hands of an expert Roentgentologist, who should not only be capable of making a picture of the stone, but who should also be fully prepared to interpret the various gas shadows and other discrepancies that may occur in the skiagraph. Some have suggested that it is even necessary to pass a leaded uretal catheter in order to determine the exact location of the ureter in relation to the stone, as other calcareous deposits near the higher urinary tract may cause confusion. Kelley's waxed tipped catheter may be of use in the hands of a very highly trained cystoscopist. It is pointed out that all of the various stones can be located with the X-ray with much facility with the exception of the pure uric acid stone. This, like the gall-stone, does not manifest itself in the picture, but fortunately pure uric acid stones are rarely, if ever, found, as they are generally mixed enough with some of the other elements to give at least a faint shadow, which has a wonderful meaning to the well trained Roentgentologist.

A competent X-ray man and a competent cystoscopist and microscopist are just as necessary as a competent surgeon in dealing with these conditions and trying to make an accurate diagnosis.

We need all the help we can get, for as Leonard⁴ says, the "Specialists or diagnosticians, so self-centered as to be blind

to the worth of other methods, and so egotistic as to admit no chance for faults in his own, is the slave of an optimism that robs him of any authority to speak in his own department."

Cystoscopy and X-ray examinations have offered us a great benefit and have made it possible for us to make clear, positive diagnoses in nearly all, if not quite all of these cases. This is a wonderful step forward and will redound to the good of the sufferers of this terrible and hitherto uncertain malady. With a positive diagnosis then at our command, we can offer these unfortunates relief by operation and positive assurance of as good results as we can expect in the surgery of any of the other organs.

Where the stone is primary, one of the two principal operations of attacking it may be chosen. If it is of small size, the thin pelvic wall of the kidney may be opened and the stone removed without doing damage to the kidney structure. After its removal the rent is closed by carefully applied catgut sutures. If the stone is large, filling up several of the calyces, it cannot be brought out through the small pelvic outlet, in which case pyelotomy is forbidden. The best route of attack for the large stones will perhaps always remain through the nephrolithotomy incision, wherein the kidney is opened on its convex border just a little posterior to Brodel's line. At this point it is said that the kidney structure is the least vascular and offers the best opportunity for incision. This incision, of course, extends through the cortical and medullary substance of the kidney down into the pelvis and may be as long as desirable. In some cases it is necessary to lay the entire kidney well open so as to expose every part of the calyces and pelvis. Of course, if the stone is of secondary origin, that is to say, found in a kidney that is already carcinomatous, sarcomatous or tubercular,

⁴Chas. Lester Leonard, The Journal of the American Medical Association, Vol. XLIX, No. 13.

the operation of nephrectomy will have to be considered.

It is sometimes indeed surprising to find a very large stone that has been practically symptomless, and on the other hand one no larger than an English pea may cause all kinds of suffering and invalidism.

In one of my cases referred by Dr. Jer-nigan, of Obion, Tenn., the patient, a lady, had been an invalid for a year or more, due to the partial occlusion of the ureter just where it leaves off from the infundibulum of the pelvis. Fortunately, the stone was quite small, and did not wholly occlude the ureter at all times, yet any effort upon the part of the patient would cause the stone to become tightened in the ureter sufficiently to produce a good deal of pain and thus the patient was made bedridden for fear of precipitating an attack upon the slightest exercise. When I opened the kidney I found it to be practically healthy, which showed that the occlusion of the ureter had never been sufficiently long to cause any serious trouble. In trying to get the stone it escaped from me and went on down in the ureter, and two days later was passed through the urethra. The patient, however, had no further trouble, and has since remained perfectly well.

I had the same experience with another patient referred to me by Dr. Duvall, of this city, and the same results were obtained. It is possible that the manipulation accompanied by the relaxation incident to the anesthetic, caused these stones to get away from me and descend through the ureter with safety and be finally delivered. I would have been led to hope that these cases might have terminated favorably without an operation owing to the small size of the calculus, had it not been for the fact that one of the patients had, as above stated, been bedridden for a year. I mention this to emphasize the

fact that we should be very careful not to leave any particle of the stone in the kidney during an operation. The smallest piece may form a nucleus for a large one, or without itself becoming larger, may cause just as much pain and discomfiture as a stone the size of a hen's egg.

The question of what is best to do with these small stones naturally arises, and I would answer this by saying, that all sorts of medical treatment should be tried before subjecting them to an operation, hoping that the stone might pass. Some have recommended the injection of a little cocaine or its equivalent, immediately below the stone by means of a uretal catheter or perhaps a little sterile olive oil or almond oil would suit some cases better. Turpentine when given by mouth has been found of value in allaying the irritability. Various mineral waters have been recommended. These with strict observations of a diet course and abstinence from alcoholic and malt liquors, probably offer the best hope of a cure than anything in the medicinal line. Operations should not be postponed unduly, as we must remember that there is always great danger of a complete occlusion with its consequent evils wrought upon the kidney itself, due to increased intrarenal pressure, followed by atrophy of the kidney in many cases.

My operative experience has been confined to seven cases, all of whom recovered without any apparent calamity to the kidney function. The mortality should be practically nothing, if the usual surgical precautions are observed. Too much care, however, cannot be exercised in arriving at a diagnosis, depending for this largely upon first-class X-ray work, careful uretal catheterization and accurate microscopical investigation of the urine, and good, safe, sound clinical judgment, coupled with your surgery.

MATERNAL IMPRESSIONS.

BY H. E. CHRISTENBERY, M.D., KNOXVILLE.

IN commenting on this subject, I need not call attention to the fact that it is a question on which a great many physicians are skeptical to a high degree. I am perfectly well aware that there are many who are ready to say that there is not much to it; but as every subject is worthy of consideration let us not be too hasty in condemning this as absurd.

Some wholly scientific men, who have to have everything proven to their own satisfaction, may and do base a strong argument on anatomical and physiological grounds. They claim that what are commonly known as "marks" are due entirely to malformation, or arrest of development. Because they cannot understand or explain the mystery of psychical influence they class it as fallacious.

But assertions do not make facts. Let us remember that when obstetric auscultation was first made known, Duges and Boudeloque, two eminent French obstetricians, denied the possibility of hearing the foetal heart through the amnial liquor, the uterine and abdominal walls, and proved it so far as theoretical argument was concerned. But did that establish a fact? Hardly.

Every person in the world is entitled to an opinion, provided he has grounds for it. Especially is this true of this subject. There are cases on record and under the personal observation of every physician, that can be explained in no other way than by *nocvus maternus*. We have numerous illustrations in professional literature and repeated reference is made by nonprofessional writers. Indeed, some of the most distinguished writers of fiction of modern times believed in it strongly enough to make it a conspicuous feature

of some of their works. Take, for instance, Goethe in his "Elective Affinities," Walter Scott in "Fortunes of Nigel" and Dr. Oliver Wendell Holmes in "Elsie Venner." Other writers who have dealt to a certain extent with the subject might be named, such as Charles Dickens in "Barnaby Rudge" and Nathaniel Hawthorne in "The Scarlet Letter." Lotze, one of the most eminent of German philosophers, greatly believed in the possibility of its influence.

In our own country we have had as strong adherents such men as Dr. Charles Dabney and Drs. Busey and (Fordyce) Barker. In foreign countries, such as Meadows, Montgomery, Stolz, etc. (Dabney Encyclopedia of Diseases of Children, First Volume; Barker and Busey, Transactions of American Surgical Society, Eleventh Volume). The fact that such belief is universal and perennial is in itself a strong argument in its favor. Every grandmother in the land will be found its staunch champion. While they cannot explain it, and make no attempt to do so, they speak from observation and their faith is unassailable.

Pfaundler and Schlossman, in their work on Diseases of Children, state that "the cause of *nevi* is not known, although in many cases heredity can be demonstrated. In how far they may be occasioned by the pregnant mother receiving psychic impressions of similar growth remains to be demonstrated." And we physicians who believe in maternal impressions have to acknowledge our ignorance of the way they act, but if we exclude from our belief all we do not understand our minds will be kept within very narrow limits. By way of parenthesis let me

add a sentence from Coleridge's *Table Talk*, in which Dr. Parr said to the person who asserted he would believe nothing he could not understand, "Then, young man, your creed will be the shortest of any man's I know."

Burdaeh, a famous physiologist, says, "If we wish to deny a vital phenomenon for the sole reason that it is impossible for us to say what are its material conditions, we must also assert that it is impossible for any quality to pass from the grandfather to the grandson, or that a child can inherit the traits, the stature, the constitution, the morbid predisposition, the talents and inclinations of the father."

We know that it has long been observed that children begotten by an intoxicated man often permanently present the characteristic signs of the drunken state—rambling minds and idiotic propensities. It is but natural to suppose that the mental condition of the mother can affect the evolution of the germ if the temporary state of the father can have such an immediately powerful effect.

It is evident that these impressions come through the maternal nervous system, by certain conditions affecting an area of the maternal organism, reproducing upon a corresponding area of the offspring. The objection to this statement is that there is no apparent nervous condition between the mother and child. Some authors claim that the extreme nervous disturbance may cause an alteration in the blood and give in support of their theory the known fact that the mother's milk may be poisonous to the child when the mother is greatly excited.

As an example of the reproduction of area let me state a case with which I am personally acquainted:

Mrs. B. was badly startled by a friend suddenly displaying her hand which was covered with blood from a chicken she

had killed. When her child was born a corresponding area on its hand was a brilliant red.

Another instance in which a lasting and pernicious effect resulted from a strong impression is the following, which I can also verify:

Mrs. W., a quick-tempered, hot-headed woman of about thirty years of age, during her fourth pregnancy, became violently angry at a small pig for getting into her garden. After repeated exertions, she picked it up by its ear and threw it outside. She was delivered at term of a female child without any left ear whatever. The child was healthy and otherwise normal and is now about four years old.

Another instance: Dr. M. is a physician in good circumstances, who is subject to attacks of melancholia. They come on unexpectedly, and for no apparent reason. They are likely to occur when business is flourishing and everything most prosperous, as at any time. He attributes his condition to the fact that, during pregnancy, his mother had such environments as to cause her to weep most of the time, *viz.*, during the Civil War she, who had always lived in the South and of Southern parentage, was taken by her husband, who was a Federal soldier, to the North and left there while he was away in the army. Being among strangers, her husband constantly in danger, added to her own physical condition, was so much to bear that she was constantly in an extremely nervous condition. Hence, her inclination to melancholia.

Then we have cases on record given by different physicians. One given by Dr. H. Woodbury Coleman, of Trenton, N. J., is as follows: "Mrs. ———, of this city, twenty-three years old and about two months pregnant, was one day very badly frightened by her son, two years old, nearly cutting off his left thumb, the

member hanging apparently by but a shred. She was without anyone to assist her and dressed the injury as best she could. In two hours I saw him, and she assisted me in that and subsequent dressings. Her mind constantly dwelt on the accident and in due time she gave birth to a boy, who, to my great surprise, had his left thumb hanging to his hand by a thin pedicle of flesh."

Also one reported by Dr. Elias March, of Paterson, N. J.:

"In 1863 a married private in the army came home on furlough. His left arm had been amputated near the shoulder joint, a small stump remaining which had not yet healed, daily dressing being required, which was done by his wife. She became pregnant, and during the early part of her pregnancy her thoughts were constantly dwelling upon the condition of her husband. She was delivered at term of a child without any left arm, only a small fleshy mass attached to the shoulder joint, resembling the amputated stump observed in her husband."

These are only a few of the many cases that come under the observation of physicians.

A strong example, showing the belief and also the result of maternal impressions in the early ages, is given in the Bible, when Jacob cheated his father-in-law of the best of the flocks by causing the sheep and goats to bear speckled, ring-streaked and striped offsprings (Gen. 30: 37-43). There are some things in creation we cannot understand, we never will understand, and God never intended us to understand. Whether or not maternal impressions come under that head remains to be seen. There will be those who believe in it, and those who do not as long as the question is unsettled. It may be that in a later age, with the more advanced science to aid us, the physical in-

fluence of the mother upon her unborn offspring may be made plain.

Until that time we, as physicians, should admonish the pregnant woman to live a quiet life; avoid all extreme excitement or intense emotion; to live as far as possible a calm, cheerful, equable existence; and we should discourage the idea of maternal impressions in the hope that the race will finally outgrow it and that future generations will not be handicapped by the follies and mistakes of this.

DISCUSSION ON THE PAPER OF DR. CHRISTENBERRY.

DR. J. W. SANFORD, Ripley:

I wish to report a case in connection with this paper. I waited on a woman in Lauderdale County who was two or three months pregnant at time. She became violently mad at a pig, and put the dog on the pig, and the dog killed it. Six or seven months later a boy baby was born and it has a thumb on each hand very much like a hog's foot. I tried to induce her to let me cut these things off, but she believes that the disfigurement of the child is the curse of the Lord for killing the poor pig, and refused to have same amputated.

DR. G. B. GILLESPIE, Covington:

I recall one case that came under my observation of a pregnant woman whose husband caught a mole in the garden and threw it into her lap. This frightened her. In due time she gave birth to a child, and one of its hands was curved with little fingers on it that looked like a mole.

DR. JOHN A. WITHERSPOON, Nashville:

I want to relate one experience which to me is very unique in connection with this interesting paper. Some three years ago a patient of mine, who had been a patient for many years, got married and went to Washington. Her left ovary was slightly enlarged, but this condition would come and go according to the care she took of herself, and I never thought of it as a serious matter. She developed appendicitis in the city of Washington, and she wired me to know if she must have an operation. I wired her back, "yes;" to obey her doctor and have whatever is necessary done. The husband wired me and said the surgeon suggested that as he was going to do an operation for the re-

removal of the appendix, he could also remove the enlarged ovary. This patient was about five and a half weeks pregnant. I wired back to leave the ovary alone; that it is not going to hurt, and gestation might get rid of the enlargement. I requested the surgeon not to remove any of the appendages. The surgeon, against the protest of the mother, removed the ovary. Now, I will give you my reason for that advice in a moment. I said she was five and a half weeks pregnant. She gave birth to a child and there was as complete an amputation at the wrist of that child's hand as you ever saw. There was nothing else the matter. My reason for the advice I gave was this: Nearly twenty years ago I saw a negro woman operated on for a mashed foot. I had never been a believer in maternal impressions, but she was operated on for a mashed foot and the leg was amputated. In addition to that she had a bruise in the belly and one of the ovaries had had a hemorrhage into it and it was removed at the same time. She was about five and a half weeks pregnant. She gave birth to a child that had only one foot. I got the idea into my mind that interference with the circulation may have interfered somewhat with the growth and development of the child, and for that reason, knowing that between the fifth and sixth week is the age of development of the extremities, I could not help but feel somewhat alarmed about my patient, and I telegraphed to Washington to let the ovary alone. Whether it had anything in the world to do with it, I do not know. Whether these two cases mean anything or not, I do not know, but I present them to you for what they are worth. In my case there was interference

with the circulation of the uterus during the development period of the child.

DR. CHRISTENBERRY (closing):

I was in hopes there would be a more full discussion of my paper. I know that, as a general thing, surgeons do not believe in maternal impressions. General practitioners and most obstetricians believe in them because they have seen these cases more than once in their practice. I have not had any more of these cases than other practitioners, but the cases I have seen have forced me to believe in them. If you will permit me I will give another case where I cannot say the malformation or lack of development was due to a disturbance in the circulation. The patient was a young mother who had been taught by some one that she could mark her child, or that there was something in maternal impressions. On learning she was pregnant, she gave her undivided attention to an art picture of a child which she greatly admired, she hung this picture in her room and looked at it constantly day and night. When the child was born, and in the course of a few weeks after it began to mature, a number of people in visiting her and seeing the child and the picture were impressed with the striking resemblance. There was no lack of development of the child or anything else that I could see. I think it is due to a psychic impression, but I cannot explain it and I do not think any of us know yet. I would like to have some convincing proof of how it comes about. While I believe in maternal impressions, I do not know how to account for them.

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VITAL STATISTICS.

WE have heretofore called attention to the fact that there would be introduced at this meeting of the Legislature a bill looking to establishing such a department in connection with the Board of Health. We are glad to state that the bill has been introduced in the Senate and is now in the hands of the Finance Committee, which committee will carefully investigate the measure and in all probability will see the wisdom of recommending

such a bill. It would be well to see the members of the Legislature and request their support of this measure, as it is a most important one, and if the Model Vital Statistic Bill becomes a law in Tennessee, it will be a great advance from the present state of affairs. This will put the entire State in the registration area as recognized by the United States Census Department, whereas at present only three cities in the State have recognition.

THE PROGRAM.

WE issued cards calling for papers for the next meeting. A goodly number have been returned giving title of paper and other information required, but there is still ample room for all who will write,

and we hope that you will not wait longer but send in title and other information at once. Those who have sent in titles will please prepare abstracts, and forward them as soon as possible.

THE MEDICAL PRACTICE ACT.

FOR the benefit of the members of this Association we herewith print the bill now pending before the Legislature concerning the medical laws in Tennessee.

The bill is given in full in order to acquaint the members of the profession with the bill and what it means to the State and to the profession. In the main,

the bill is a codification of the present laws upon the statute books, with some additions. In Section 3 of the bill, provision is made for the selection of the members of the Examining Board in accordance with the action taken at Knoxville three years ago. This, we feel sure, will meet the approbation of the profession at large. We call attention especially to Section 17 and state that this section is very important. It has been upon the statute books for some years and yet this section has been practically eliminated by the action of the Senate. If the House should concur in this, the bill enacted without this feature would be a failure in the protection sought. It therefore becomes necessary for every member of this Association to exert his utmost influence on the members of the House to see this section retained. There is a strong fight being made against this section by the patent medicine people and they are sparing neither time nor means to bring about its defeat. During the recess now going on, while your legislators are at home, see them and show them the necessity of this section. It would be well for every man to familiarize himself with the whole bill, every section of which is very important, instructive and for the good of the profession and the State.

A BILL

To be entitled, An Act to regulate the practice of medicine and surgery in the State of Tennessee, and to define and punish offenses committed in violation of this Act; and to repeal an Act passed April 20, 1901, and approved April 22, 1901, being Chapter 78, of the Acts of 1901, entitled, An Act to regulate the practice of medicine and surgery in the State of Tennessee, and to repeal all Acts amendatory of said Chapter 78, of the Acts of 1901, to wit: Chapter 3, of the Acts of 1905, passed March 27, 1905, and Chapter 543, of the Acts of 1907, passed April 15, 1907, and all other laws and parts of laws in conflict with this Act.

SECTION 1. *Be it enacted by the General Assembly of the State of Tennessee*, That no person shall practice medicine in any of its departments within the State unless and until such person shall have obtained a certificate of license from the State Board of Medical Examiners hereinafter created, and shall have had the same recorded in the office of the County Court Clerk in the county in which he proposed to practice; provided, that any person or persons who, at the time of the passage of this Act, are duly and regularly licensed to practice medicine in any of its branches in this State, and have had their certificates of license registered according to law, shall not be required to procure a license under this Act; and, provided further, that any person or persons who, at the time of the passage of this Act, hold a certificate of license to practice medicine in any of its branches in this State, and who have not had it registered according to law, shall have six months from the passage of this Act to present such certificates of license to the Board of Medical Examiners, who, upon such presentation, shall renew such certificate, which, when registered, word for word, as herein provided, shall entitle the person named therein to practice medicine in this State without procuring a license under the provisions of this Act; provided further, that any physician holding a diploma from any reputable medical college, said diploma bearing date prior to 1900, and such physician being of good moral character, and a practitioner of medicine in this State for ten years immediately preceding the passage of this Act, may present his diploma to the State Board of Medical Examiners, who shall thereupon issue to him a certificate of license to practice medicine in this State, upon his paying the legal fees therefor, said certificate to be registered as herein provided.

SEC. 2. *Be it further enacted*, That there shall be a Board, to be known as the State Board of Medical Examiners, and to consist of six graduated physicians of not less than six years' experience each in the practice of medicine or surgery, one or both, two of whom shall reside in each grand division of the State, and whose duty it shall be to examine into the qualifications of all applicants for certificates of licenses to practice medicine or surgery in this State; provided, however, that the three schools of medicine shall be represented on said Board of Examiners, as follows: Four representatives from the regular schools of medicine, one from the eclectic, one from the homeopathic school of medicine; and

provided, also, that no member of said Board shall be connected with any medical college of the State or State Board of Health.

SEC. 3. *Be it further enacted*, That the members of said Board of Medical Examiners shall be appointed by the Governor and shall hold office for a term of six years; provided, that the members of the present Board of Medical Examiners shall retain their offices and commissions until the term of each shall have regularly expired, under the Act, heretofore passed, creating said Board, and no appointment shall be made under this Act until the expiration of said terms of office; and provided further, that when any vacancy is to be filled by the Governor, the State Medical Association, representing the three schools of practice set forth in Section 2 of this Act, may recommend to the Governor a list of not less than twelve (12) eligible physicians for membership—eight from the regular, two from the eclectic and two from the homeopathic—on the Board, from which list, if furnished, the Governor may appoint the members of said Board. In event of the death, resignation or removal from the State of any member of said Board before his term of office shall have expired, the said Board of Medical Examiners is hereby authorized and empowered to fill such vacancy by the election of a physician, eligible under the terms of this Act, who shall hold office during such unexpired term.

SEC. 4. *Be it further enacted*, That the State Board is authorized to elect from its own members a President and Secretary, and create such other offices and to adopt such by-laws as may be necessary and proper for the efficient operation of the Board. Four members shall constitute a quorum, and a majority of those present shall be necessary to reject any applicant, but such rejection shall not bar the applicant from reexamination after the lapse of six months.

SEC. 5. *Be it further enacted*, That a regular meeting of the Board shall be held each year in the city of Nashville, Tennessee, but special meetings may be held oftener upon the call of the President, or at such times and places as a majority of the Board may order.

SEC. 6. *Be it further enacted*, That persons desiring to obtain a certificate of permanent license to practice medicine or surgery in this State shall make application therefor in writing to the State Board of Medical Examiners, presenting to the Secretary, prior to the issuance of the certificate of license, a diploma from a reputable medical college now requiring four

(4) courses of lectures, of not less than seven months each, no two of these courses ending in the same calendar year. The application shall be accompanied by the fees hereinafter prescribed, and by satisfactory proof of good moral character, and such other information and details as may be prescribed by the State Board of Medical Examiners. When these preliminary requirements are satisfied, the applicant shall then present himself before the Board for examination upon the following branches—viz., Anatomy, Physiology, Chemistry, Pathology, Hygiene, Obstetrics, Materia Medica, Surgery and Practice. The member or members of the Board representing each separate school of medicine shall have the right to examine all applicants of that school in the branches peculiar to the teachings of that school, and the Board shall accept the grade placed by such member or members upon such branches.

SEC. 7. *Be it further enacted*, That the two members of said Board in each grand division of the State shall, at such time or times as the Board may direct, meet at some convenient point in their respective divisions for the purpose of examining applicants for permanent license. Such meetings shall be held at stated periods, and the questions to be propounded upon each examination shall have been determined upon in advance by the Board, and be identical in each division; and such examinations shall be held on the same day in each division, and under uniform rules and regulations, to be adopted by the Board. The examination papers will be graded by the members of the Board, and said grades and such papers as the Board may deem necessary shall be carried to Nashville to the annual meeting of the Board. The grades and papers shall then be passed upon by the Board in annual session and the results declared and certificates issued to those entitled to receive them. The Board or any of its respective sections may, at the option of the members, supplement such written examinations by the oral examination, and the recorded value of such oral examinations may be given such importance as each member of the Board sees fit.

SEC. 8. *Be it further enacted*, That, if the applicant for examination shall thereupon be found worthy and competent by the Board, it shall issue to him a certificate of permanent license, in accordance with the facts in each case, to practice medicine and surgery in this State.

SEC. 9. *Be it further enacted*, That in order to

prevent delay and inconvenience, the two members of the Board of any grand division of the State may grant a certificate of temporary license to any applicant who is permanently located as a resident of some designated place in the division of the State, upon satisfactory evidence to them that such applicant possesses the qualifications hereinabove required, and upon written examination by them of such applicant in the subjects named in Section 6 of this Act, and make report thereof to the next regular meeting of the Board. Such temporary license shall not continue in force longer than until the conclusion of the next regular meeting of the Board, and shall in no case be granted within six months after the applicant had been refused a certificate of license by the Board; provided, that no one shall be examined for temporary license who has not attended three full courses of medicine lectures at some reputable medical college.

SEC. 10. *Be it further enacted*, That the Board of Examiners shall keep a record of their proceedings in a book for that purpose, which book shall be open for inspection, and shall record the name of each applicant, the time of granting the certificate of license, the names of the members of the Board present, and where a certificate of license is denied by the Board to any applicant under authority of this Act, the fact and ground of such denial shall be entered on the minutes of the Board, and shall be communicated in writing to such applicant.

SEC. 11. *Be it further enacted*, That the Board is empowered to demand a fee of ten dollars for an examination for certificate of permanent license, and five dollars for an examination for a certificate of temporary license, and to demand for the issuance of a certificate of permanent license five dollars, and for the issuance of a certificate of temporary license one dollar.

SEC. 12. *Be it further enacted*, That any person thus receiving a certificate of license, whether permanent or temporary, from the State Board of Medical Examiners, shall forthwith have it recorded, word for word, in the office of the County Court Clerk of the county in which he proposes to practice, and the date of such recording shall be indorsed thereon; and such license, when so recorded, shall not be collaterally questioned in any legal proceeding. Until the license is recorded the holder shall not exercise any of the rights or privileges therein conferred; and, in case said license is not recorded within three months from the date of its issuance, it shall become invalid. The

Clerk shall be paid a fee of fifty cents for recording said certificate. Any registered physician removing his residence from one county in this State to another, in order to practice medicine, shall in like manner record the certificate of license in the county to which he removes, and the holder of the certificate shall pay to the County Court Clerk fifty cents for so doing; provided, that practitioners who have registered in the county in which they reside may respond to professional calls in any other county in the State without being required to record their certificates of license in said county or counties.

SEC. 13. *Be it further enacted*, That the County Court Clerk of each county shall keep, in a book provided for that purpose, a complete list of the certificates of license recorded by him, together with the date of each and the date of recording. He shall record all certificates of license, whether permanent or temporary, granted by the State Board of Medical Examiners of Tennessee, *verbatim et literatim*. The clerks shall hereafter, beginning with the first Monday in July, 1911, and regularly at the expiration of every twelve months thereafter, report to the Secretary of the said Board of Medical Examiners a list of such registrations in his office, together with a list of the deaths and removals from his county of physicians who have thus registered, for which service the Clerk shall be paid, out of the funds of the Board, ten cents for each name so reported. This register of the County Court Clerk shall be open for inspection during business hours. Any County Court Clerk of any county of the State who shall fail to make said report to the Secretary of the Board of Medical Examiners within sixty days after July 1 of any year, as provided above, shall be guilty of a misdemeanor, and upon conviction shall pay a fine of five (\$5) dollars for each and every failure.

SEC. 14. *Be it further enacted*, That the members of said Board shall receive as a compensation for their services ten (\$10) dollars per day while in the actual services of the Board, and also for their actual hotel and traveling expenses by the most direct route to and from their respective places of residence, which, together with the necessary expenses of each meeting of the Board, shall be paid out of any money in the treasury of the Board, upon the certificate of the President and Secretary.

SEC. 15. *Be it further enacted*, That the Board shall have the right and power to revoke any

license upon the ground that it was procured by fraud, or that the licensee has been guilty of unprofessional or dishonorable conduct.

SEC. 16. *Be it further enacted*, That the words "unprofessional or dishonorable conduct," as used in Section 15 of this Act, are hereby declared to mean:

First.—The procuring or aiding or abetting in procuring a criminal abortion.

Second.—The obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured.

Third.—All advertising of medical business in which untruthful and improbable statements are made.

Fourth.—All advertising of medicine or means whereby the monthly periods of women can be regulated or menses reestablished if suppressed.

Fifth.—Conviction of any offense involving moral turpitude.

Sixth.—Habitual intemperance or excessive use of narcotics.

SEC. 17. *Be it further enacted*, That it shall be unlawful for any itinerant physician or itinerant vendor of any drug, nostrum, ointment or application of any kind, intended for the treatment of diseases or injury, to sell or apply the same; or for such itinerant physician or vendor, by writing, printing or other methods, to profess to cure or treat diseases or deformity by any drug, nostrum, manipulation or other expedient in this State, and whoever shall violate the provisions of this section of this Act shall be guilty of a misdemeanor; and, upon conviction thereof before a Court of competent jurisdiction, shall be fined in any sum not less than \$100 and not exceeding \$400.

SEC. 18. *Be it further enacted*, That any person who shall not at the time of the passage of this Act be duly and regularly licensed by law to practice medicine or surgery in this State, and who shall, notwithstanding, practice medicine or surgery in this State without first having complied with the provisions of this Act, shall, for each and every instance of such practice, be guilty of misdemeanor, and on conviction thereof be fined in the sum of not less than \$25 nor more than \$50, and any person filing or attempting to file, as his own, a diploma or license of another, or a forged affidavit of identification, or make any false affidavit concerning himself, shall be guilty of a felony, and upon conviction thereof, shall be subject to the punishment prescribed by law for the crime of forgery. All fines and forfeitures of bonds for offenses under this Act shall be paid over to

the Board of Medical Examiners, to constitute a part of the funds of said Board.

SEC. 19. *Be it further enacted*, That any person practicing or attempting to practice medicine in any of its branches under the name of any other person, or persons, or firm, whether the person, or persons, or firm be a resident, or residents, of this State or not, or whether he, she or they be deceased or not, or any person acting under the name of and as agent of any other person, persons, or firm, in the capacity of a practitioner of medicine or surgery, be examined for another, shall be guilty of a misdemeanor, and upon conviction by any court having criminal jurisdiction, shall be punished by imprisonment in the county jail for not less than thirty days, nor more than eleven months, or by a fine of not less than fifty nor more than two hundred dollars, or both, in the discretion of the court, for each offense.

SEC. 20. *Be it further enacted*, That any person shall be regarded as practicing medicine within the meaning of this Act, who shall treat or profess to treat, operate on, or prescribe for any physical ailment or any physical injury to or deformity of another; provided, that nothing in this section shall be construed to apply to the administration of domestic or family remedies in cases of emergency, or to the laws regulating the practice of dentistry; and this Act shall not apply to surgeons of the United States Army, Navy or Marine Hospital Service, or to any registered physician or surgeon of other States when called in consultation by a registered physician of this State, or to midwives, or to osteopaths, not giving or using medicine or appliances in their practice, or Christian Scientists.

SEC. 21. *Be it further enacted*, That the State Board of Medical Examiners of Tennessee is hereby authorized to accept licenses issued by other States having requirements, which, in the opinion of the Board, are equal to those of this State, and which accept, upon similar conditions, the licenses issued by the State Board of Medical Examiners of Tennessee. The State Board of Medical Examiners is hereby authorized and empowered to adopt such rules and regulations as in their judgment may be best for the carrying out of the provisions of this section. If an applicant is admitted to the practice of medicine in this State under the provisions of this section, he shall pay to the Secretary and Treasurer of the Board of Medical Examiners a fee of twenty-five (\$25) dollars

before a certificate of license is issued to him or her. None of the provisions of this section here-in shall apply in any way to temporary licenses.

SEC. 23. *Be it further enacted*, That it shall not be lawful for the Board of Medical Examiners, or any member thereof, in any manner whatever, or for any purpose, to charge or obligate the State for the payment of any money; and said Board shall look alone to the revenue derived from the operation of this Act for the compensation designated in Section 14 hereof, and if said revenue is not sufficient to pay each member in full, together with the necessary expenses of the Board, then the amount available shall be pro rated among the members. But if there should be a greater revenue derived than shall be required to pay the compensation and expenses hereinbefore directed, any surplus remaining therefrom shall be paid to the Comptroller of the State, who shall receipt the Board for the amount so received, and shall account for said money as for other State revenue. An annual report shall be made to the Governor each year, showing fully the operation of the Board and including a full financial statement of all receipts and disbursements.

SEC. 23. *Be it further enacted*, That the grand jury of each county in this State is hereby given inquisitorial power over all offenses

against or violations of this Act, and the Circuit and Criminal Judges shall give the same in their charges to the grand juries. And the Board shall designate the members in each grand division of the State, whose duty it shall be to report any violations of this Act to the proper authorities.

SEC. 24. *Be it further enacted*, That it shall be a misdemeanor, and shall disqualify from office, for the Board of Examiners to issue a certificate of license to any person only as prescribed or set forth in this Act; provided, however, if the Board should be disqualified from office, the Governor shall appoint a new Board in full as provided in this Act.

SEC. 25. *Be it further enacted*, That Chapter 78, of the Acts of 1901, entitled "An Act to regulate the practice of medicine or surgery in the State of Tennessee," together with all Acts amendatory thereof, to wit: Chapter 3, of the Acts of 1905, and Chapter 543, of the Acts of 1907, said amendatory acts being germane to the purpose and style of the said Act of 1901, and all other laws and parts of laws in conflict with this Act, be, and the same is hereby, repealed.

SEC. 26. *Be it further enacted*, That this Act take effect from and after July, 19 , the public welfare requiring it.

ADDITIONAL LEGISLATION.

WE desire to call the attention of the profession to the fact that in addition to the General Practice Act and Vital Statistics Bill, there are several very important bills now before the Legislature. One of these is the medical inspection of all school children in the State. This measure has been under consideration for some time and has been prepared with the utmost care and consideration after numerous conferences, and was introduced a day or two before the beginning of the recess of the Legislature. This bill provides for the inspection of all school children by some competent physician in each community, whose duty it shall be to inspect every school child at least once every year for the purpose of discovering any defects in vision, hearing and speech,

in order that these defects may receive proper care and attention. Touching these matters it may be stated that many children who are seemingly slow to learn are the subjects of defects of vision, consequently cannot apply themselves properly to their studies or cannot see and understand demonstrations given upon the blackboard, or who, by reason of defect in hearing, are unable to follow in detail explanations of subjects discussed by the instructor. Many children are the subjects of enlarged tonsils and adenoid growths, which produce considerable disturbance of speech and cause difficulty in breathing properly through the nose, which sooner or later causes the child to become inattentive and slow to learn or appreciate instruction, and also ren-

ders him much more liable to such conditions as sore throat or tonsilitis, and attacks of acute diseases, such as diphtheria and other acute exanthematous epidemic diseases, while at the same time they produce more or less dullness of hearing. It further contemplates the examination of children during all epidemics for the purpose of preventing the spread of such diseases to others as well as insuring the discovery and arrest of such diseases before they have progressed too far, thus preventing serious complications. Such a measure will be of inestimable value when once it is thoroughly established and appreciated and while there may be some opposition in the beginning, in the hands of the proper parties it will prove a great benefit to every community in which it is put into effect.

Another very important bill is designed for the purpose of regulating the issuance of marriage licenses. This measure pro-

vides for a health certificate in the hands of both parties who are about to marry, which shall be issued by some competent health board and which shall certify that the parties desiring to secure the license are free from such contagious diseases as threaten the individuals desiring to marry, as well as those upon whom such diseases might be entailed as an inheritance. These are most important questions and carry with them the safeguarding of the public health in generations yet to come. In addition to this, provision is made to prevent the marrying of those who should not, because of idiocy, drug habits and drunkenness, as well as those who may be classed as degenerates. Such a bill, if enacted into the law, would go far toward eliminating the criminal element from society and would in course of time place the citizens of Tennessee upon the highest possible plane sociologically. Each of these measures should receive the earnest support of every physician in the State.

COUNTY REPORTS.

THE County Secretaries will please note the fact that blanks were sent out for county reports early in February. While these reports can be forwarded as late as the 10th or 12th of March, so as to have them in the hands of the State Secretary by the 15th of March, yet we will urge you to make all haste possible—that is, as soon as all members have paid dues and have been properly accounted for. The sooner these reports are in the hands of the General Secretary, the easier it is to compile the general report for the year. Unfortunately, some of the Secretaries wait until a few days before the meeting and then send in reports. This necessitates holding the general report

open until the very last day, and some Secretaries have even failed to report until during the meeting of the State Association. This is always a source of annoyance and sometimes causes embarrassment to a member who desires to participate in the program, but who is not in good standing at the time of the meeting. If the President should act strictly along the lines of the Constitution and By-laws of the State Association, any member whose dues are unpaid at the time of the meeting could be denied the privilege of the floor. So let the Secretaries be as prompt as possible in making returns, and in this way prevent any possible embarrassment to a member.

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All matters pertaining to material for publication, and questions relative to County Societies should be addressed to GEO. H. PRICE, Secretary-Editor, 146 Eighth Ave. N., Nashville, Tenn.

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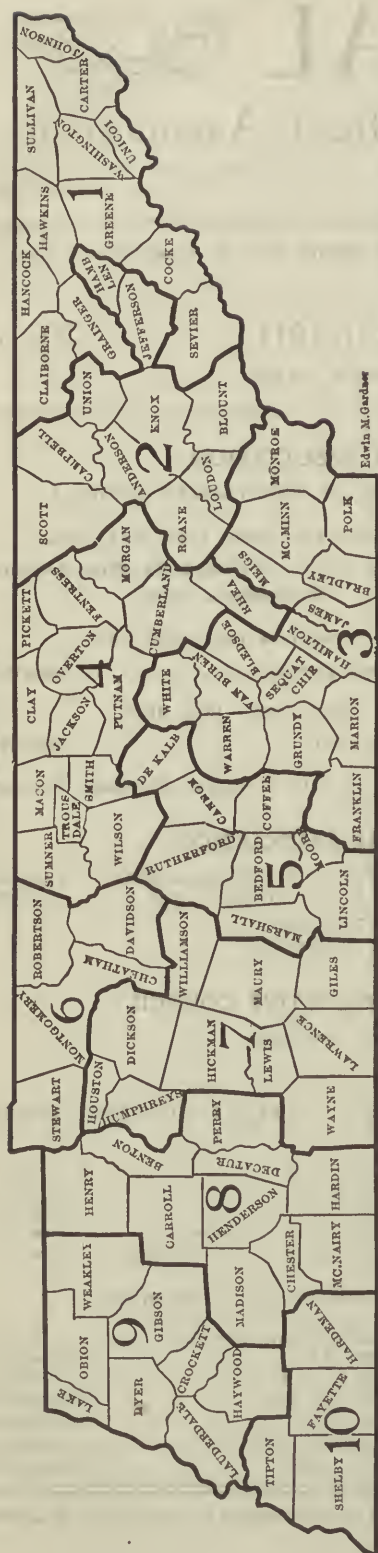
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All communications concerning advertising matters should be addressed to Dr. W. C. BILBRO Chairman, 146 Eighth Ave. N., Nashville, Tenn.

COUNCILOR DISTRICTS.



By action of the House of Delegates during the last meeting of this Association, the State was divided into Councilor Districts, each District representing a Congressional District. You will note that a heavy black line marks off each Councilor District. These Districts are numbered from right to left and from 1 to 10. Each District is under the care of a District Councilor and by referring to the list of Councilors, you will see in which District any given County is located. All questions pertaining to Organization should be referred to your District Councilor. This map is intended to be a guide and a help to all members of the Association.

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COUNTY SOCIETIES.

To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

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VOL. III.

NASHVILLE, TENN., MARCH, 1911

No. 11

THE ACTION OF THE ARYL-ARSONATES ON THE EYE.

BY E. C. ELLETT, A.B., M.D., MEMPHIS.

ALTHOUGH the organic salts of arsenic have been known to chemists for over fifty years, their value in medicine has been only recently recognized. Their special value seems to lie in those diseases due to an animal parasite—namely, sleeping sickness, malaria and probably syphilis. The first of these organic preparations of arsenic to come into use was sodium amino-phenyl arsonate, or atoxyl. The manufacturers of other preparations claim that atoxyl is uncertain in composition and action and therefore dangerous. They therefore have marketed two products—namely, sodium para-amino phenyl arsonate, or “soamin,” and sodium methyl acetyl amino phenyl arsonate, or “orsudan.” There seems to be a good deal of difference of opinion as to what these products really represent. The manufacturers of soamin and orsudan say that atoxyl contains 18% of arsenious acid, soamin 22.8%, and orsudan 25.4% of arsenic, but the latter are more stable and less toxic than the former. From other sources we hear that the three differ only in the amount of water of crystallization, and are equally uncertain in action and toxicity. Positive statements as to the identity of atoxyl and soamin are made by Reid Hunt (*Journal of the American Medical Association*, August 14, 1909, p. 497) and an editorial in the *Journal of the American Medical Association*

(April 16, 1910, p. 1323). Sir Jonathan Hutchinson is quoted in that number as saying, in the new edition of his book on syphilis, “Laudatory notices are written by those who have little knowledge of what Fowler’s solution can do, and who would be more profitably employed in studying the properties of old established simpler drugs than in urging the claims of new ones. Why should the attention be wearied and the memory burdened with details as to soamin and atoxyl when, after all, nothing is claimed which has not already been amply proved for liquor arsenicalis.”

The use of the aryl-arsonates, especially atoxyl and soamin, having met with considerable favor in the treatment of a variety of conditions, it is well to bear in mind certain disadvantages which may attend their use, the chief of which, in my experience, are mental disturbance and impairment of vision. The former is apparently temporary and therefore of less serious import than the latter, which is permanent and progressive. The purpose of this paper is to emphasize the danger to the vision, and is prompted by the following case:

Mr. D., aged 31, was seen on December 23, 1909, and gave the following history: During the previous summer he had been affected with an eruption on the skin of the left popliteal space, diagnosed as

eczema. He was treated at a health resort by a physician, who gave him soamin, in 10 grain doses, hypodermically. He received about 50 grains of soamin in all, and three weeks later, having returned to his home, he took from his physician there as much more. He then secured a fresh supply, and was given by his physician 120 grains more, all hypodermically. It not being convenient to continue his visits to the physician, he procured and administered to himself 120 grains more, without the knowledge or advice of the physician, the patient not knowing that there was any danger in the drug. He thus received between August 27th and the last of November about 340 grains of soamin hypodermically. In November he had a carbuncle on the back of his neck, and stopped the medicine. Soon after this—that is, in a few days—he noticed a failure of vision. This had progressed, and when I saw him it was reduced to 5-200 in the right and 20-40 in the left. The fields showed a corresponding difference, the right being much contracted, especially to the nasal side, and the left moderately contracted in every direction. The ophthalmoscopic appearances of the left eye were normal. The right showed whitening of the optic nerve, with blurred edges, absorption of the retinal epithelium showing the choroidal vessels. February 5, 1910, the condition was the same. On March 18th the patient writes that the vision is still about the same, and the left eye is painful. On May 19th, vision right was 20-200, left 20-20. The fields were also better, but the evidences of optic atrophy were unmistakable in both eyes, being pronounced in the right and much less marked in the left.

In the reported cases of visual disturbances from the use of these preparations of arsenic we put in one group those reported as due to atoxyl, and in another those reported as due to soamin, without

taking into consideration the question of whether or not these two names stand for the same drug.

Single cases of blindness from atoxyl have been observed by Coppez, V. Kru-dener, Bornemann, Dör, Wolfrum, Ter-rin, Nonne, Lesses and Greef. Two cases each are reported by Hereford and Fehr. Kopke reported at the twenty-ninth International Congress of Hygiene, Berlin, 1907, six cases of blindness from atrophy of the optic nerves observed among twenty-nine cases of sleeping sickness treated with atoxyl. Koch, in charge of the German commission for the study of sleeping sickness, reported twenty-two cases of blindness from atoxyl; Beck, a member of the same commission, reports twenty-three cases completely blind and seven more mildly affected. These two sets of cases, together with those reported by Gray of the English commission, may contain duplicates; but the fact is pretty well established that blindness can be caused by atoxyl.

The lesion in these cases has been studied experimentally, *post mortem* and by ophthalmoscopic examination. Igersheimer's experiments (Report of the Heidelberg Oph. Soc., 1908), showed, briefly, that the drug exerts a selective deleterious action on the central nervous system, findings that were substantiated by Birch-Hirschfeld and Koster. The feeling of this congress was that the drug was too dangerous to be used in the treatment of syphilis. Nonne had the opportunity to examine the optic nerves, *post mortem*, of a patient with atoxyl blindness, who died of carcinoma cachexia, and found a retrobulbar neuritis of a subacute degenerative character. Ophthalmoscopically the lesions have been found to be retrobulbar neuritis, similar, in my case at least, to the changes seen after poisoning by wood alcohol. The changes evidently vary much in degree.

The dose of atoxyl which may be considered dangerous is, unfortunately, not fixed. V. Krudener's patient received 50 gm. (750 grains) in seven months. Koch thinks doses of .5 gm. (7.50 grains) every seven to ten days, as large as can be safely given. Coppez observed affection of the vision after one injection of .05 gm. (.75 grain), and blindness after five such doses (.25 gm. or 3.75 grains). One of Fehr's cases received 25 gm. (375 grains) in sixteen days and the other, two courses of injections, 10 gm. (150 grains), each "over a considerable time." The dose of soamin is, by mouth, not over 3 grains a day; hypodermically, 10 grains. A course is 100 grains.

It would seem best to quote approvingly Morax's summary (*Annales d'Oculistique*, January, 1908): "The dose of atoxyl productive of these troubles has been very variable, and this is apparently the gravest charge that one can bring against atoxyl. The first ocular symptoms appear so suddenly that one cannot prevent the toxic lesions, whose evolution is only exceptionably and partially regressive."

The visual symptoms produced by atoxyl and soamin consist in the failure of the sight. There is no pain or inflammation, but the failure of vision is ac-

companied by contraction of the visual field and dilation of the pupils.

The prognosis is bad. Arrest or partial recovery is exceptional. The condition usually goes on to blindness.

The treatment is, first, withdraw the drug. Then alteratives, eliminants and diaphoretics may be used, as in other toxic amblyopias, but with small hope of achieving any result.

V. Krudener raised the question as to whether it was the aniline or arsenic that causes the symptoms. Coppez thinks it is the aniline; and yet we have long known that arsenic, in common with other metallic poisons, can produce peripheral neuritis.

The cases of blindness from orsudan and soamin are fewer in number. Mr. Ernest Lane (*British Medical Journal*, March 5, 1910, p. 599), mentions several cases: one of blindness from ten injections of 5 grains each of soamin, another from a total of 60 grains of soamin, and another, from soamin, dose not stated. Lundie and Blakie (*British Medical Journal*, January 22, 1910) report another case of blindness from soamin. In the face of such reports the value of these preparations must be extremely great to justify the risk that attends their use.

FOREIGN BODIES IN THE EYE.

BY ROBERT FAGIN, M.D., MEMPHIS.

THE day's work was over, the front doors were closed and I was seated at my desk thinking over the subject that had been selected for me to write about, and just as I had finished writing the title and was planning the first paragraph, my attention was directed to the door. On opening it I saw a familiar form, with head bowed down and with face covered

with handkerchief. On entering the office he said: "Doctor, I have something in my eye. Will you please get it out?" Imagine the pain that this poor fellow was suffering from this cinder, which was stuck deeply into his eyeball! What other minor injury will so completely *hors de combat* a man as a foreign body in the eye? I challenge you to mention

something. A foreign body in the eye would take all the fight and ginger out of a prize fighter. It will even calm and quiet the most enthusiastic supporter of the aeroplane, and these big, human-carrying birds would fly all around him unnoticed and unseen. Why all this? Because the eye pains him, and he closes it to ease the pain. Now, if all this be true, then it behooves each and every one of us to make ourselves just as expert as possible in removing these foreign bodies, and in administering the proper after-treatment.

The general practitioner is called upon almost as often as the oculist to remove these foreign bodies, and he should be able to locate and remove the commoner ones, and to know just when to call for the aid of an oculist.

In this paper we shall discuss only a few points about foreign bodies in the eye. The usual ones are cinders, grains of sand, dust, ash, emory, glass or even small pieces of steel. In the deeper structures of the eye we may find iron, steel, stone, shot, gun powder and even an eyelash has been found in the anterior chamber. I remember to have removed an eyelash which had pierced its way through the conjunctiva and was almost hidden between the conjunctiva and sclera. Foreign bodies get into the eye as a rule from some explosive force hurling therein, or from particles floating in the air and the wind blowing them in. The eyelids are great protectors, and often they are severely injured in their efforts to protect the eye.

The foreign body, if hurled with sufficient velocity, will pass through the lid and on into the eyeball, but in the case of cinders, grains of sand, etc., lids do not offer very much protection, and this class of foreign bodies so often adhere to the inner surface of the upper lid; in fact, the three places to look for a foreign

body are on the eyeball, on the inner surface of the upper lid and on the conjunctiva of the lower lid. If it was blown into the eye, we nearly always find it adhered to the inner surface of the upper lid. Evert the lid by grasping the lashes between your thumb and finger, ask the patient to look down, while you push on the center of the lid with pencil or applicator. The foreign body is usually visible to the naked eye and easily removed with a pledget of cotton on an applicator or toothpick.

The first symptom of a foreign body is pain. This pain does not originate in the conjunctiva itself, because the conjunctiva has very little sensitiveness, but in the cornea, because each movement of the lid scrapes the cornea and the pain is, therefore, absent when the lid is kept quietly closed. We have profuse lachrymation, redness and photophobia; but it is the pain that causes the patient to seek his physician, and when the foreign body is removed he gets almost immediate relief, unless it has penetrated deeply or has carried infection into the eye. The longer it stays in the eye, why, of course, the more damage it does. Methods of removal: Always use a weak solution of cocaine first. This makes the examination easier for the physician and less painful for the patient. If possible, remove the foreign body with a small piece of cotton wound on the applicator, and then saturate with your weak cocaine solution. This does the least amount of damage, and more than fifty per cent of them can be removed in this way. But when it has penetrated into the corneal substance, it must be dug or picked out with a foreign body needle or spud. Care must be taken not to perforate the cornea, or to remove too much epithelium in the effort to dislodge the foreign body. The foreign body may come out of its own accord, and then the abrasion only will be

giving rise to the pain. A drop or two of an alkaline solution of fluorescein will detect the abrasion. It does not affect that part of the cornea which is intact, but will color green those portions denuded of epithelium, or where the epithelium is diseased.

Berger's binocular magnifier, or de Zeng's corneal microscope aids the oculist in finding or locating the foreign body when it is too small to be detected with the naked eye. The value of an X-ray in locating foreign bodies in the eye cannot be too highly estimated. By simple inspection, and with the ophthalmoscope it is frequently impossible to locate the foreign body, and, therefore, the X-ray is of great practical value.

After locating, then comes the problem of removal, and each is a problem unto itself. If its removal is even remotely possible, the attempt should at least be made. If the foreign body be metallic in nature, then removal by the electric magnet may be possible, and is the best way. Anyway, the effort should be made, and if there is pain and bulging of the iris, this signifies that the foreign body has been attracted and is on its way. The eye is usually cocaineized and the pupil is widely dilated, so that the foreign body has an easier exit. If infection occurs with, or following, the removal of the foreign body, cold compresses should be applied to the eye, and leeches to the temple; the pupil should be dilated to its full extent and mercury, a most valuable agent, should be administered.

The sequellae of foreign body properly treated is practically nil. It of course depends upon the size of the foreign body, length of time in the eye, method of removal, etc. In the Manhattan Hospital of New York we were required to follow each removal of a foreign body with a couple of drops of 20 per cent solution of argyrol, also to use a bandage for

twenty-four hours on all patients where there was very much destruction of corneal epithelium. This was done as a routine, and we were taught to look after our foreign body cases with the same care that we did the cataract patients. Corneal ulcer is the most common sequella, and is the thing we dread.

Speaking of the lids not always protecting the eye, I wish to report a case that just left our infirmary a few days ago. This patient, a young man, clerking in his father's store in Arkansas, was opening the ice chest and a soda water bottle too heavily charged with gas exploded. A piece of the bottle was thrown directly into his eye, cutting the upper lid all the way through and cutting the eyeball for almost half an inch. The iris was cut to the center of the pupil, but fortunately the lens and its capsule were neither injured, and the piece of glass was pulled out in toto by the patient himself after it had spent its force and thus, seemingly, destroyed this eye. The patient came right on over to this city, reaching here at night, and luckily found Dr. E. M. Holder in his office. Dr. Holder dressed the external wound, and kindly referred the patient to us for his ocular treatment. We kept the pupil widely dilated with atropin and combatted the inflammation with antiseptic washes and argyrol. Although beads of vitreous filled up the gaping wound in the eyeball for several days, we were able to send this patient home two weeks later with vision in this eye sufficient to read the paper, with all wounds healed, but with a pupil always to be oblong instead of round.

DISCUSSION ON THE PAPER OF DR. FAGIN.

DR. O. DULANEY, Dyersburg:

This is a very important subject, and one that confronts almost every practitioner of medicine. Of course, the majority of cases do not amount to much. The foreign body is easily removed

from the eye when a drop of cocaine is put into the eye. Now and then we have those cases where the foreign body seems to penetrate the anterior chamber of the eye, and it is necessary in this class of cases to apply antiseptic precautions on account of the local conditions which may be set up, such as iritis and the adhesions that follow.

I had a patient about two years ago—a negro boy—who came into the office with a wound in the cornea between the center and periphery. It was incised and a piece of glass pulled out from the anterior chamber. I had considerable trouble in removing it, and, of course, he not using antiseptic precautions, the wound became infected. The whole anterior chamber was white, but after applying forty-five per cent solution of argyrol and hot applications, the condition of the eye cleared up. Vision was almost normal afterwards. It is hard to tell what good results we can get in these seemingly hopeless cases.

DR. M. R. FARRAR, Nashville:

I am not prepared to discuss this paper, although it recalls to my mind a case which was referred to Dr. Hilliard Wood. The patient was a young man who was repairing a telephone wire. He sustained an injury, and the eye was in a very bad condition. It was greatly inflamed. He claimed that he had a piece of metal or wire in the eye, which had struck him. The only external evidence of this was a little scar at the internal edge of the cornea, and that was supposed to be the point of entrance. Dr. Wood examined the eye carefully, and found that vision was very much diminished, and he made an effort to locate the supposed piece of wire. He used a powerful magnet, but it had no effect on it, and after resorting to all means of locating this piece of metal, he referred the case to me for a skiagram, which I made, and located a scale. I presume it was from the wire. I questioned the young man and found that it was a piece of galvanized wire that he was working with, and having observed the coating on that wire, I questioned him if it was not a frequent thing for a piece of scale of the galvanized wire to fly off. This coating is put on by some acid process. It is something like zinc, but by bending a piece of wire of that kind this coating will crack and fly off. It was my theory that it was a piece of that coating that had struck him in the eye and had imbedded itself. It was so deep it could not be seen, and the magnet had no effect on it whatever. The eye was in such a condition that its removal was advised, but

the young man preferred not to have the operation done, and he returned home. I do not think Dr. Wood has heard from the case since, but it was rather interesting from the fact that this supposed piece of metal consisted of a piece of zinc that the magnet would not affect, and our only means of determining positively whether a foreign body was in the eye was a skiagram, and the skiagram showed a scale of the galvanized wire.

DR. WILLIAM BRITT BURNS, Memphis:

This paper is one of exceeding interest and is very practical. Nearly every practitioner is called to treat these cases, whether he is an eye specialist or not. Of course, the eye is very, very sensitive, and it is exceedingly painful to remove even a cinder from the eye without using a small amount of a weak solution of cocaine. Many times, as the author of the paper has said, you can by a steady hand lift a cinder from the eye without cocainization, and with just momentary pain, but in those cases where the cinders come from an engine or a hot cinder that burns through one or two layers of the cornea and leaves a brown eschar at the bottom of the cinder, you will have to remove the cinder and still the pain will continue. It is necessary in these cases to use a sharp instrument to remove the layer that is burned before the patient gets complete relief. I am not an eye man. I have occasionally to handle these cases in workmen from the shops of different railroads and of some manufacturing plants. I rise particularly to call attention to those cases in which there is apparent lack of sensation of the cornea. I remember an instance where a negro man and his wife got into a "scrap," and as the result of the encounter she was wounded in the eye with glass. She had taken small pieces of glass out of her eye, and when I saw her the next morning (this was when I was in the swamps of Arkansas). I removed a piece of curved glass nearly an inch long which lay under the lid. She had slept that night without an opiate.

Once in a while we will find extensive lesions of the cornea without great suffering. Lacerations of the cornea will occur from flying objects, or instruments, or from pieces of metal in the work of mechanics, and frequently these will cut the cornea, sometimes cutting through and lacerating the iris and producing prolapse. I had one instance of that kind recently which I saw, and with the use of atropin the prolapse of the iris receded, and the patient recovered without any rupture in the circumference of the pupil.

Contusions occur in the same way, and frequently from a medico-legal standpoint hemorrhages into the sclera will occur, and sometimes it is a question with the physician in charge of the case as to just what he should say to the patient, although he feels that the hemorrhage will soon be absorbed; but in dealing with such cases I have always, as a routine measure, prescribed a saturated solution of boracic acid, or some one of the antiseptics, with the eye covered in each case, and I regard that as good practice.

DR. E. M. HOLDER, Memphis:

I want to congratulate Dr. Fagin on the result he succeeded in getting in the case he has detailed. The young man happened in my office at night, and I could not get Dr. Fagin at the time, so I closed up the outer wound, which was just over the eye, with some sutures, looked after the general surgical end of the case, and told the patient to report back early in the morning. He did so and I referred him to Drs. Fagin and Hill. At the time when I saw him in the evening there was a hernia of the iris, and I was very much afraid he was going to get opacity of the lens. These cases are so common, and whenever you have them vision is likely to be permanently impaired. I think the paper is one that will be of great value to those practitioners who cannot have at their beck and call eye specialists. It is easy enough to refer these patients in the city to the eye man, but in the country we cannot do that, and the paper is particularly valuable on that account. A foreign body in the eye will give neuroses and will produce pain. That means that later the eye has to come out in order sometimes to protect and conserve the vision of the other eye, and the method described of handling these cases is very valuable indeed. I feel helpless myself when a man comes to me with a foreign body in the eye, because I do not do that class of work, and I apprehend that same feeling of helplessness comes to every general practitioner out in the country where he has not electrodes and magnets with which to treat these cases, and it is difficult to get out a small foreign body like a scale from a galvanized wire or a little piece of rust which will impair vision if it is over the cornea or any other small object. I say it is difficult to remove it from the eye. It is difficult to see a piece of clear glass in the eye, and one would have to depend very largely upon touch or the feel of the probe even under the influence of cocaine in many instances.

DR. HERMAN HAWKINS, Jackson:

I have the case of a young man I would like to report. I have charge of a young man now in the Madison County jail, who, in resisting arrest, was shot in the chest and in the eye with number seven shot. Both wounds healed quickly, and since his incarceration in jail inflammation has set up in the wounded eye. After calling in a specialist we decided on the removal of the eye in order to preserve the sight of the other eye. Authority from Washington was necessary to do this operation, and since my arrival in this city I have received that authority, and it is probable that operation will be performed on my return home. I simply cite this case to show that when these foreign bodies are not removed there is great danger of the patient having the other eye affected by sympathetic inflammation resulting in loss of vision in both.

DR. G. NEWTON EVANS, Nashville:

There is just one point in Dr. Fagin's paper I want to get information about, and that is with reference to this last case. Some six or eight years ago I remember a case which was similar to this, judging from the description given, where a piece of glass from an exploded bottle pierced the eye of a child, making an extensive linear wound across a portion of the cornea, traversing the ciliary region and wounding the sclera. The case was referred to a specialist whom I regard as a well-informed man. He immediately enucleated the eye on the basis that the injury to the ciliary region might possibly in the future be the cause of a sympathetic ophthalmia, and he did not think it was advisable to leave the eye in place. I should judge from the description of Dr. Fagin's case that his was somewhat similar, and that the ciliary body must have been injured by this wound. If that is the case, does he not fear subsequent trouble, in the way of sympathetic ophthalmia?

DR. FAGIN (closing the discussion):

In regard to Dr. Evans' question, I see no reason why we should have a sympathetic ophthalmia in this case. The wound has healed perfectly, and there is no infection, and it is simply like a cataract operation. The eye is split in two, the wound heals, and there is no danger of a bad result following, if the ciliary body is not wounded.

There are two things I want to mention: The first is fluoricin. We use a one per cent aqueous solution of the fluoricin and simply drop one

drop into the eye and it colors green all the cornea that is denuded of its epithelium. If there is any abrasion it is colored green. After the foreign bodies are removed, sometimes the patient will complain of pain for a day or two, and are very apt to say that the foreign body is not all out, but if you use fluoridin you can tell. The second thing is the use of the magnet. There are lots of times when men who work

around skyscrapers and are engaged in steel work when particles of steel are flying, some of these particles get into the eyes of the workmen and cause a chronic conjunctivitis, and they come to us for treatment, and we treat them for conjunctivitis only. Now, if we apply the magnet it is possible there are particles of steel here which will come out, and as soon as these are removed the conjunctivitis will clear up.

"PLACENTA PRAEVIA."*

BY A. T. CLOPTON, M.D., MILAN.

AMONG the many abnormalities of pregnancy we find this as one. It is a very rare condition, though none the less important to the obstetrician.

Definition.—Placenta is said to be praevia when it is attached to any portion of the lower uterine segment. And since dilatation of the segment is necessarily followed by hemorrhage, the condition is often called unavoidable hemorrhage.

Our knowledge of this abnormality dates from the end of the seventeenth and the beginning of the eighteenth centuries. But little advance was made in our knowledge of it until Barnes promulgated his views as to its mode of production and his methods of controlling the hemorrhage arising from it. Since that time many men have busied themselves in searching for its mode of origin and the most suitable treatment.

Frequency.—Fortunately placenta praevia is comparatively a rare complication. Statements of different authors vary greatly in estimating the frequency. We have to consider the reports, whether from hospital or private practice, and in all probability it would be correct to say it occurs about once in one thousand cases in private practice as compared with once in two hundred and fifty in hospital practice.

Varieties.—Ordinarily three varieties are distinguished: placenta centralis, partialis, marginalis, or the several varieties can be arranged in two groups, complete and incomplete. There is considerable variation as to the frequency of the different varieties, but it is generally admitted that the partial form is the most frequent. In placenta praevia centralis the placenta is adhered to the margins of the internal os, and completely covers the lumen of the os both before and after dilatation. In partialis the placenta encroaches more or less on the internal os always partially covering the lumen, but never completely. In the marginal variety the placenta is implanted above the margin of the internal os and is only palpable after dilatation.

Etiology.—The two principle causes are multipara and endometritis. It is very rare in primipara and increases in frequency with the number of children the woman has borne. Enlargement and relaxation of uterine, changes of shape and position are often causes. Changes in the uterine mucosa, such as endometritis, abortions and tumors—more common in poorer classes, caused probably from hard work and subinvolution of the uterus. Some believe that in threatened abortion the ovum may be arrested in its descent and become attached at or near the cervix.

*Read by title.

The fundamental and most frequent cause is a diseased endometrium.

Symptoms.—The principle symptom is hemorrhage. It usually occurs without warning and varies from a few drops to an amount sufficient to cause a grave anemia. But usually it is very slight at first and increases in frequency and severity as dilatation increases, though in rare cases the first hemorrhage may prove fatal. The hemorrhage occurs anywhere from the beginning of the third month to the end of pregnancy, and is most frequent during the last month. The more centrally the placenta is attached the earlier and more severe the hemorrhage. Oftentimes all symptoms are absent until the advent of labor, when we have the hemorrhage.

Diagnosis.—Early in pregnancy the diagnosis is impossible; but hemorrhage in the second half of pregnancy should always cause us to suspect placenta praevia. Inspection and auscultation have no part in the diagnosis and little or nothing can be gained by abdominal palpation. During the last months of pregnancy the cervix is soft and patulous, and by palpating the lower uterine segment through one of the vaginal fornices the placenta may be made out between the finger and the presenting foetal part. By vaginal examination the cervix and vaginal fornices are found to be softer than usual, and have a boggy feel due to the increased blood supply. It is sometimes more marked on one side, due to the position of the placenta. After dilatation of the cervix, if the placenta is centrally located, the whole os is soft and covered by a soft, boggy, granular feeling mass. If latterly attached on one side you will feel bag of water and head on the other side the margin of the placenta.

Prognosis.—The prognosis is always great. Maternal mortality is given at

at about 30 per cent and the foetal at 60 per cent. Death of the mother is due either to hemorrhage or sepsis, and the maternal mortality depends upon the variety of placenta praevia, time of gestation, method of delivery and condition of patient when first seen. The nearer the time of labor the better the prognosis, as dilatation and emptying of the uterus can be more easily accomplished. The prognosis is better in multipara and better at full term. The danger is always greater for both mother and child in the central variety. There is also danger to the mother of *post mortem* hemorrhage from the lower uterine segment caused by a muscular atrophy which follows the abnormal distention from the low attachment of the placenta. The foetal mortality is due to the fact that many children are born some weeks or months prematurely, also in many instances due to asphyxiation caused by placental hemorrhage, while some die during attempts at extraction through an imperfectly dilated os. The summary is: the great maternal mortality is due to hemorrhage, septicemia, inflammations and shock of version. Foetal mortality: asphyxia, prematurity, version and malpresentation.

Treatment.—Nothing can be said of prophylaxis.

Expectant Treatment.—If the condition is recognized before the seventh month, and the aim is to continue pregnancy, the woman must be made to lead a quiet life mentally and physically. She should avoid all muscular effort. If moderate hemorrhage be present she should lie in bed until all hemorrhage ceases. For the uterine contractions opium should be given, and if symptoms are severe, the treatment for threatened abortion should be instituted. Foot of bed should be raised, cold applications to the pelvis and abdomen and opiates administered to control the pain.

Treatment Proper.—On account of the danger of a profuse and sudden hemorrhage, pregnancy or labor, as the case may be, should terminate in the most conservative manner as soon as possible after placenta praevia has been diagnosed, especially if it be the central variety. There is no single plan of treatment applicable to all cases. It depends upon the variety, time of pregnancy and condition of patient when first seen. And the obstetrician who can best differentiate his cases will obtain the best results with his treatment. Caesarian section has been advocated by some, but it offers but little on account of inability to apply in general practice; and the foetal mortality would hardly be materially reduced for the reason pregnancy is usually terminated before term. Still, this method may be the choice in a very small number of cases, especially in primipara with rigid os.

Report of Cases.—The following cases occurred in my practice:

Mrs. G., married; age, 25; multipara, third pregnancy; time of pregnancy, beginning of the ninth month. On September 2, 1904, while about her usual household duties, had a sudden, rather profuse, uterine hemorrhage. Hemorrhage came without any warning and there was no pain. I was called and saw the patient at once; the hemorrhage had ceased when I arrived. Diagnosis of placenta praevia was made, but was not able to determine which variety. I instructed the patient to remain in bed for a few days and gave opiates, if any pain. No further hemorrhage occurred until the termination of pregnancy, which was at full term, and at which time I was able to determine the variety, which was partial placenta praevia. Labor normal, except slow dilatation and an attached placenta and considerable antepartum hemorrhage, which was controlled by rupture of membrane

and head descending acting as a compress.

Case 2: Mrs. C., married; aged 28; multipara, second pregnancy; time, four and one-half months. Husband came to my office, stating his wife had miscarried and was flooding. I saw the patient at once, and, upon examination, found the following: Placenta praevia of the latter variety, transverse position, with arm and loop of cord about five inches protruding from the cervix. From the attendant I learned the patient had been in labor or having pains for about forty-eight hours; also, that it was an illegitimate pregnancy—or at least she thought so—and she had been supplied with medicine with the view of producing abortion. So I was unable to determine whether the condition was due to placenta praevia or a drug she had been taking. Under chloroform anesthesia I tried to push back the cord and arm, do a version and deliver but was unable to do so. I then removed the placenta and delivered the foetus, gave a saline uterine douche and the patient made an uneventful recovery.

Case 3: Mrs. K., German; married; age, 33; multipara, fifth pregnancy. Time, eighth month. Husband came to me March 24, 1908; said his wife was about seventh or eighth month pregnant, and for two or three days had been losing blood; had no pain and was upon her feet most of the time. I ordered her to bed, but she would not obey my instructions. On March 26th her husband called me to see her. Hemorrhage increasing a little, and at this time suffering some pain. I put the patient to bed, but on examination was unable to determine whether placenta praevia or threatened abortion, as there was very little dilatation, not sufficient to admit one finger. I gave her opium to control the pain and instructed her to keep absolutely quiet and in bed. But the hemorrhage never ceased entirely,

notwithstanding the fact the patient obeyed instructions and remained in bed; for she constantly suffered some pain, and judging from increase in hemorrhage, the dilatation was increasing all of the time. On April 4th I examined her the second time, finding sufficient dilatation to warrant a diagnosis of placenta praevia centralis. The whole internal os was covered with placenta and there was considerable hemorrhage and regular labor pains of moderate severity. I called consultation, and after examination the doctor confirmed my diagnosis, and in view of the fact that the patient had lost considerable blood, we decided to terminate pregnancy at once. We gave four-grain

doses of quinine by mouth and ergatole hypodermically every hour for five doses to increase the uterine contraction, after which completed dilatation by manual means, tore through the placenta, performed version and delivered a dead foetus, but not without considerable hemorrhage and shock to the mother, for which we used saline infusion and stimulants. The uterus contracted promptly and firmly and the patient recovered without further trouble. The management of this third case especially impressed me with the importance of as early diagnosis as possible and terminate pregnancy at once, for nothing can be gained by waiting and the patient's life may be sacrificed by delay.

SPRAINED ANKLE.

BY DUNCAN EVE, JR., M.D., NASHVILLE.

THE ankle joint is more frequently sprained than any other joint of the body, and consists in stretching or partially lacerating some of the ligaments of the joint, usually the external ligaments.

Cause.—It may be caused by movements carried beyond the normal limit of motion. Sprained ankles are more common in young persons and in adults with weak muscles. The most common cause is that of forced inversion of the foot. This frequently occurs while a person is walking—a misstep or unevenness of the ground may result in the foot being turned inward, the weight of the body coming upon the foot in this position causing further inversion. We also have such injuries from falls, as jumping from a car, and especially persons engaged in athletic sports. Another type of sprains met with a great deal are in young ladies whose ankles are small and naturally

weak in proportion to their body weight. The most important factor in this type of injury is a previous injury of a similar nature, which leaves a weak joint behind it. So much for sprains due to inversion or the foot being turned inward.

Let us speak of the injury where the foot is sprained by eversion, which is a very rare occurrence. In a sprain by eversion the foot is usually rotated outward and the ligaments on the plantar and inner surface of the foot are very strong, so forced eversion is more apt to fracture the malleolus than to lacerate the ligaments.

Pathology.—The most important effect of the injury always falls first to the ligaments of the joint which are damaged to a more serious extent than any other structure entering into the articulation. In a mild case, the ligaments are only stretched; in an ordinary sprain, the lig-

aments may be slightly torn, and in severe cases, a portion of the capsule of the joint is ruptured, with one or more of the ligaments torn partially or wholly from its attachment to the bone; also, in these severe cases we are apt to have portions of the capsule become caught between the articular surfaces.

Symptoms.—The first symptom is pain, which is of a severe and sickening character; the patient sometimes becomes nauseated and faints. When the severe pain passes off, a feeling of numbness occurs, with a dull aching due to pressure on the nerves. Pain of a severe character is also produced upon moving the ankle or putting the foot to the floor. In a short time after the accident hemorrhage takes place into and about the joint, which interferes with the return circulation; therefore we will have more or less swelling, especially in the neighborhood of the external malleolus, and with this swelling we will have a general stiffening of the part. Ecchymosis will develop in a few days after the injury, the most frequent site being below the external malleolus; also we find it sometimes over the course of the posterior tibial artery.

Another important symptom is localized tenderness, which we find always below and in front of the external malleolus, which is due to stretching or laceration of the calcaneo-astragaloid or external ligament of the ankle; tendons are stretched and sometimes displaced and the nerves are damaged. We sometimes notice there is no swelling immediately after the accident, but makes its appearance some twenty-four or forty-eight hours afterwards. Such condition is due to inflammatory exudation.

Another symptom—or, we might say, complication—occasionally noticed is periostitis of os calcis. Such condition occurs in the sprained ankle when the patient jumps or falls some distance and

alights on his heel. These patients will complain a great deal on the third or fourth day of pain about the posterior surface of the heel. A great many cases of this kind have come under my observation.

Diagnosis.—The diagnosis is based upon chiefly the history of the accident and tenderness. The laceration of a ligament is very easily recognized by tender points corresponding to the ligament or ligaments which are usually just below and in front of the external malleolus, although fractures and dislocations should be considered. In fractures, crepitus and mobility exist; in dislocation, the joint is rigid and we have great deformity, the bones being felt in abnormal position. Effusion of blood is apt to conceal a fracture of the malleoli or the tarsal bones; therefore in such cases, if we cannot eliminate a fracture in the foot after two or three days we should examine the ankle under an anesthetic or apply the X-ray. So much for the diagnosis of recent ankle sprain.

Now, let us pass on and make a diagnosis of an old ankle sprain, and beginning of tuberculosis of the ankle:

SPRAIN.

1. No temperature.
2. No atrophy of muscles of leg.
3. As a rule health is good.
4. Pain increases at first upon walking; later on it decreases.
5. Pain not increased at night.

TUBERCULOSIS.

1. Just a little evening temperature.
2. Notice atrophy of leg muscles.
3. General health not so good.
4. No pain at first, but after walking some distance, pain makes its appearance.
5. Pain more severe at night. Skia-

graph will sometimes show a tubercular focus.

Treatment.—All that has been said will show that a sprained ankle is a serious matter, therefore it should be treated likewise. If we look in our text-books, we find generally three treatments:: 1. Many of the text-books advise incorrectly that the only treatment is a plaster-of-paris cast placed on right after the injury. 2. Also, we find many of the books advise the ankle to be treated by active and passive motion and massage directly after the injury. 3. We find some of the books advise cold and hot applications, with elevating the limb, applying a bandage and later plaster-of-paris cast. In the past six years I have treated something over three hundred cases of sprained ankle. During the first three years I used the three methods above mentioned, but must say that my results were not favorable. The treatment, which I wish to call your attention to, is the use of Gibney's modified dressing, which I have been using for the past three years.

In a mild type, the foot should be placed in hot water some thirty or forty minutes at a temperature of about 100° F. Then you can apply the Gibney's modified dressing.

For an ordinary sprain, I use the hot water, and then usually paint the ankle with tincture of iodine and then apply some local application; as a rule I use cerate of sub-acetate of lead. This application is of course soothing, but is especially used to relieve the patient's head. Now, I place gauze and a thin sheeting of cotton over the ankle and finally apply a spica bandage to the foot with uniform pressure, which will always check the effusion of blood into the joint. Now, the patient is instructed to have perfect rest, with the foot elevated as much as possible. This case is now dressed the same way the second or third day after the in-

jury, and on the fifth or sixth day I apply the Gibney's modified dressing.

In the severe type, after using the hot water and before applying my dressing, I always make free movement of the joint in all directions, so as to make sure that no portion of the torn capsule or synovial membrane lies between the articular surface, because such movements of the joint will probably cause them to come into position. Now apply the local applications and dress as before. Put the patient on crutches, and as before instruct him to keep the limb elevated while at rest. This ankle is dressed as before, every two or three days for three or four dressings; then apply the Gibney's modified dressing, remove his crutches and encourage him to use the joint to a reasonable extent for the first few days. So we see from the above treatment we have all the good features of the three text-book methods.

Gibney's modified dressing is applied as follows:

First, the surface is shaved; second, the foot should be held at right angles to the leg and just a little everted, because the ligaments on the outside of the ankle are the ones affected, therefore slightly everting the foot relieves the tension of these ligaments. Now prepare six long strips of adhesive plaster eighteen inches long, six short strips fourteen inches long and all one inch wide. Take a long strip first, which goes on the outer side of the leg and is attached obliquely on the tibial side, passing to the outer side of the leg behind the external malleolus under the posterior portion of the sole of the foot and ends on a level with the internal malleolus. Now take a short strip, start on a level with the internal malleolus, parallel with the margin of the sole of the foot, running backward over the posterior part of the heel, then obliquely over the dorsum of the base of the big toe. Alternate with

each other and overlap each previous strap one-third or one-half until you have used them all.

Now you should place a roller bandage on the foot, so as to be sure that your dressing will remain in contact. This dressing prevents lateral strains and checks swelling, but does not prevent the use of the foot. This dressing should be changed about every eight or ten days for better support and because the skin becomes irritated. With this treatment it is rare that I have ever had a patient off from work over three or four weeks.

In conclusion, let us review the good points of this dressing:

1. It limits the effusion of blood.
2. It immobilizes the joint.
3. It relaxes the muscles.
4. You get uniform pressure.
5. It prevents stiffening.
6. It reduces the time of treatment.
7. It produces a massage.
8. It is a sure relief for pain.

DISCUSSION ON THE PAPER OF DR. EVE.

DR. JERE L. CROOK, Jackson:

The first paper I read before this association was on this subject. I have been using the modified Gibney method, and I am very glad indeed to see that Dr. Eve's experience tallies entirely with my own. I have modified the method in some particulars, but the general indications of treatment and the general methods are the same. After ten or twelve years' experience with the modified Gibney method of treating sprained ankles, I can see no reason for making any change whatever. To my mind it is the method for the treatment of these cases, and all methods described in the text-books are obsolete unless the text-books have been recently published. In nearly every case, if I see the patient within the first hour after the injury, after a prolonged bath in hot water, I can apply this treatment at once and assure the patient that he can walk with the ankle thus treated; but if the sprain is one of unusual severity, and I do not see it until some hours after receipt of the injury, I apply a hot lead and laudanum pack and later apply the adhesive plaster, until the

swelling has subsided, believing that this is the best method of handling these cases.

DR. S. R. MILLER, Knoxville:

I have enjoyed the reading of this paper the same as I did the paper of Dr. Crook, which was read several years ago, on the same subject. After hearing Dr. Crook's paper, I thought he had solved the problem of treatment of sprained ankle, which, we all know, is a troublesome condition. Being located at the terminal of several railroad divisions, I have noticed that different employees have received different treatments, and each man holds or thinks that he is employing the best method. That goes to prove that there is no one best plan of treating sprains of the ankle, and I think the essayist has very clearly set forth here today the fact that each case must be individualized. I do not believe there is any class of surgical conditions in which the surgeons must individualize as much as in this particular class. I believe that one would make a great mistake to strap up some bad sprains, as the doctor indicated with his photograph. If you do that, you will have trouble, but there are cases, if you can select them, where that treatment is ideal, and where, as Dr. Crook has said, the patient can get up and walk off with comparative comfort. I want to suggest one point in the treatment of the very severe cases for the purpose of giving relief, where there is a great deal of effusion in the joint, and that is, besides the first hot application and bandage, the use of the ice-bag through the night. In many cases much relief is afforded by the use of the ice-bag. I may take the ice-bag off and apply heat again during the day. But the ice-bag can be continued throughout the night and gives the patient comfort from a sprained ankle the same as in many other cases of acute inflammation.

DR. S. T. RUCKER, Memphis:

I am often impressed in a medical meeting, by a paper like this one, not being discussed more; when a paper on some medical or surgical fact like the trypsin treatment for cancer, appendectomy or ventro-suspension will attract so much attention. This paper is not only an interesting one, but deals with a class of ailments which almost every physician meets with.

There is only one point in the paper which I desire to emphasize: that of examining sprains and fractures under an anesthetic. I do not believe severe sprains from fractures should be

examined without an anesthetic, for two reasons: (1) the patient is subjected to unnecessary pain, (2) it is hardly possible to properly manipulate the parts and make a careful examination, unless the patient is relaxed by an anesthetic.

DR. EVE (closing the discussion):

I forgot to mention in my paper that this treatment is also useful, if you allow the patient to return to work after its application, in preventing flat-foot as one of the causes.

THE TREATMENT OF ACUTE INFLAMMATIONS OF THE MIDDLE EAR.

BY G. C. SAVAGE, M.D., NASHVILLE.

THE purpose of this paper is to outline what I believe to be the best plan of treatment of acute inflammations of the middle ear. It will not be out of place, however, to name some of the causes: Measles, scarlet fever, grippé and common colds. Adenoids, enlarged turbinates and any other condition that can interfere with nasal respiration are common causes; and even bad teeth can cause inflammation of the middle ear.

It is only in infants that an error in diagnosis may be made. Though they cannot tell, in words, of the pain and tenderness that are already present, they present signs that are almost as plain as words. The little one will be restless, tossing his head from side to side, and will frequently cry out because of the pain. Pressure on the tragus will cause pain. The character of nursing is almost pathognomonic; it is spasmodic with the lips all the while tightly closed around the nipple. The fact that the temperature is usually high often misleads the physician, and the true nature of the disease becomes known only when the ear begins to discharge.

At the earliest possible moment treatment should be instituted. If the inflammation is due to any other cause than one of the eruptive fevers, and the diagnosis has been made before pus has formed, the following prescription may effect a speedy cure: Chloroform, dr., 1 to

1ss; olive oil (pure), oz., 1. This agent should not be warmed, for the reason that the heat would dissipate the chloroform. The ear should be filled by dropping the medicine out of the bottle, and at once a folded towel, fresh from the drawer, should be placed over the ear, the patient, of course, lying on the other side. The medicine should remain in the ear for thirty minutes. A second instillation should be made in two to four hours, even if there has been no return of the pain. Usually, if there has not already been pus formation, the pain has been entirely relieved by the end of the half hour, and may not return. However, the return of the pain should be guarded against by repeating the instillations as often as every four hours for two or three days. Should the chloroform not bring the relief desired, at the first or second use, it should be discontinued and the following combination should be substituted: Atropia sulphate, gr., 1; morp. sulph., gr., 10; boracic acid, 31; aq. dest., fl. oz., 1. Eight or ten drops of this mixture should be warmed and poured into the ear and should be allowed to remain at least a half hour. During this time the ear should be covered with a warm folded towel. This instillation should be repeated every four hours for two or three days, even if the pain should not recur. The atropia mixture may be used from the first in any case. Either of these

agents, when commenced early, may cut short an inflammation without pus formation.

The following prescription should always be given for external application: Tinct. aconite, dr., 1; tinct. iodine, dr. 2. This should be applied in front of and behind the ear once a day, unless the skin should become too tender.

The following should be prescribed for internal administration, when the patient is a child, and the cause is either grippe or a cold:

Tinct. aconite, M.XXX.

Tinct. opii deod., M.XXV.

Sweet spts. nitre, dr., IV.

Syr. bal. tolu, Q. S., dr., II.

Mix.

The dose to be given, while the fever and restlessness continue, is one teaspoonful every three hours. For this formula, which is very efficient, I am indebted to Dr. Woodson, of Birmingham, Ala.. These cases should all be treated at home if suppuration is to be prevented.

When the cause of the inflammation of the middle ear is one of the eruptive fevers, the chloroform mixture is too irritating to the inflamed lining of the auditory canal, and the atropine mixture alone should be used.

In all cases of scarlet fever and measles the ears should be watched, and the moment one or both should become painful the atropine solution should be commenced. In these cases I believe it would be good practice to instill this solution in each ear twice a day to prevent the inflammation from occurring.

There is one agent which I have never used in the ear for earache, which, in one case known to me, was most efficient. It is ice-cold water dropped in the ear. One of my local confreres was suffering intensely with his ear, and in his desperation he asked his wife to fill his ear with

ice water. Relief came quickly and was so complete that he became a little fearful that he had done wrong. Very soon he called me over the telephone and told me what had happened and asked me if I thought he had done wrong. I told him that the disappearance of the pain indicated that he had done the right thing, but that I had had no experience with the method. The pain did not return, but I have not found myself ready to adopt the treatment.

Unfortunately, all cases cannot be cured without pus formation. The continuance of the pain in spite of the treatment outlined above points to the presence of pus in the drum cavity. This should be evacuated through a clean cut in the lower posterior quadrant of the drumhead, close to the posterior margin. If this operation is not done, the drumhead will rupture and the pus will discharge itself. The operation can be rendered almost painless by means of an application, to the part to be incised, of the following mixture: equal parts of cocaine, carbolic acid and menthol. This should be applied by means of a small pledget of cotton on the end of a small probe. The incision should be made at the end of two minutes after the application. For this method of anesthesia I am indebted to Dr. Ellett, of Memphis.

When the ear begins to discharge, through either an incision or a rupture, thorough cleansings are essential to rapid healing. For cleansing I prefer dioxogen. I first direct that the canal shall be made as clean as possible by means of cotton on the end of a toothpick. I then direct that the canal shall be filled with warmed dioxogen, which shall be allowed to remain five minutes, at the end of which time the canal must be thoroughly dried by means of cotton on the end of toothpicks. Immediately following the cleansing and drying, eight or ten drops

of the atropia solution should be instilled and must remain in the ear thirty minutes, at the end of which time it is allowed to run out, but the canal is not to be dried. These cleansing and healing agents must be repeated two to four times a day. Under this plan the discharge should be checked and the inflammation cured in ten days to two weeks. The treatment should be continued for three to five days after the discharge has ceased. The ancient folly of allowing a child to outgrow a discharging ear has long since exploded. The inflammation should not be allowed to become chronic.

Under the plan of treatment outlined in this paper many cases of acute inflammation of the middle ear will be cured without suppuration. A large per cent of the suppurative cases can be cured without the complications of either periostitis or mastoiditis.

The indication for applications of heat, either moist or dry, is pain not controlled by agents already set forth. I seldom find it necessary to use either method; but when I do, I prefer the dry—that is, the bag of hot salt or the hot-water bag, and whether the one or the other, it should be on for an hour and off for an hour, until the pain is relieved. I do not use the stream of hot water from a fountain syringe for either controlling the pain or cleansing the canal.

DISCUSSION ON THE PAPER OF DR. SAVAGE.

DR. L. B. GRADY, Nashville:

If Halley's comet had been passing in view of the earth during the last few years as frequently as Dr. Savage gives us a specific treatment for ear and eye diseases, the world today would be tranquil instead of being perturbed, lest the gaseous tail of that comet should strike us and annihilate animal life from the earth. (Laughter.)

I have not had any experience with all these various drugs and these various plans of treatment he has given to you; still if I should lose

my faith in drugs, I would quit the practice of medicine. But I have never found it necessary in the treatment of acute otitis media to fill the ear full of drugs or to paint it on the outside with drugs. During the last two months we have had a considerable epidemic in Nashville. I do not think I have seen more than twelve or fifteen cases treated in this way, and they were under treatment from three to eight or ten days, and in nearly all of them I was put to the necessity within a few hours after the last visit of the regular physician of incising the drumheads and emptying the drum cavity. One very conspicuous case received three doses of aconite, etc. When I lanced the ear, incised the drum-head, six hours after the preceding visit by the attending physician, the pus dropped off the lobule of the ear before I could get my instrument wiped. That was one of the cases where the specific did not specific, and it was typical of all the other cases I have seen.

This atropin-boric acid-morphin mixture has been very materially modified in the last three or four years. At that time atropin and boric acid alone were given to us as a specific in the prevention of aural troubles in scarlet fever, and the statement was made at a meeting of the Middle Tennessee Medical Association, at Shelbyville, three or four years ago, and I am going to repeat it, and if I am not correct the secretary will correct me, that it was almost criminal to permit ear complications in cases of scarlet fever; they can be easily prevented by dropping into the external auditory canal a solution of atropin and boric acid, ten grains of boric acid, and one grain of atropin to the ounce of water. Since then morphin has been added. I do not know why. I have not used that yet, but a friend of the essayist, a satellite, who follows nearly all of his suggestions and propositions, about ten days after that meeting turned over to me a case of mastoid abscess following scarlet fever in which atropin and boric acid were used freely and according to directions. Now, let me tell you something, gentlemen. Whenever any man lays down a line of treatment which is going to cure this, that, or the other case, and makes a statement that is allowed to go unanswered, you had better take it with a lot of salt. Furthermore, there are no specifics except those that have been worked out scientifically. Tell me how you are going to prevent internal infections by external applications. There is the real point, and notwithstanding all of this beautiful line of theoretical treatment, and it is not only theoretical, but it is put into

practice daily whenever opportunity offers, it is just exactly these things which account for the numerous cases of mastoid trouble we have, and within the last thirty days there have not been less than twenty or thirty mastoids operated on in the city of Nashville. If you will put this method into practice and keep it up, then those who do mastoid work will be happy, but the patients will not be.

Dr. T. J. HERRON, Jackson, was asked to take part in the discussion. He said:

I did not hear the paper, and I hardly know what to say on the subject. However, I do not know of any more important subject which can be brought before this association than that of the treatment of acute otitis media. I find that this trouble comes on quite frequently from a cold. We have to treat the cold, and where there is an inflamed drum or an inflammation we use preparations of some kind. I use sprays, inhalations, put the patient to bed, believing the rest treatment is the best thing after all, particularly where there is an acute inflammation. I used to let these patients go around, do what they please, but frequently found that the condition ended in suppuration. So the first thing I do now is to put the patient to bed. I have treated two of Dr. Crook's boys. One of them was treated recently. I put him to bed and kept down the trouble by doing it. In a case that is attended with pain and inflammation sufficient to cause trouble, the patient ought to be cared for just as much as if he had some ailment in some other part of the body. If you go to see a patient with fever and typhoid symptoms, or some other trouble, you would not let that patient get up and walk around. We do not lay enough stress on this kind of treatment and on rest. The average general practitioner fails to see or realize its importance. If you put these patients to bed, keep them there, and give them a saline or purgative, and use some simple treatment, they will recover. The condition of the ear will not develop into a suppurative process which we frequently find.

Dr. GRADY:

What is the pain in the ear due to?

Dr. HERRON:

It is due to a cold or to an inflamed condition of the internal structure of the drum membrane, and we should use some remedy which will quiet or relieve that pain. I generally use some hot solution. I do not believe in pouring in continually hot water, but occasionally syringe and

let the water go in and hit the drum indirectly, as it were. This is better than continually forcing the water in with syringe. Some physicians take the syringe and hit the drum direct. I think by so doing we cause harm. I put the patient to bed and give an opiate for a few hours in order to keep him quiet. I try to let these patients have a good sleep. These little patients wake up in the night; they will have restless nights, and if you keep them quiet they will soon get over the trouble.

Dr. O. DULANEY, Dyersburg:

I did not hear very much of the paper, but did hear Dr. Savage mention the cause of this trouble. I think we sometimes forget that we have such cases following an attack of the grip. I have seen quite a number of cases recently from the effects of *la grippe*. This comes on in elderly people, and in some of them the ear suppurated, while in others it did not. It has been my experience that the best thing to do is to get rid of the pus quickly, and the sooner we get rid of it the better results we will get, especially in old people. The absorption of the pus secretion will not be as rapid, and people, after they reach old age, will not take care of this matter as well as younger people. I think it is well to apply local treatment which will afford temporary relief, at least. The best thing I use is a solution of cocaine, and then if I use anything else locally, it is a hot water bag. If it is not convenient to have a hot water bag, just take a towel wrung out of hot water and apply it to the ear. In some of these cases early inflation of the Eustachian tube will relieve them instantly, and one inflation will sometimes give very much relief. If the cocaine does not relieve them in four hours' time, and the inflammation or pain returns, the best thing to do is to lance the drum and get rid of the pus. Even if you have no pus, the patient gets relief from the paracentesis.

Dr. J. J. WALLER, Oliver Springs:

My experience in treating inflammations of the middle ear is that no local application dropped into the external auditory canal is altogether satisfactory; local applications are frequently very unsatisfactory, and these cases will go on to suppuration, when the drum has to be punctured and the exudate let out. If the local applications which have been mentioned do not relieve them, then I generally resort to puncture in the posterior inferior quadrant of the drum.

THE PRESIDENT:

How long do you wait before you make the puncture?

DR. WALLER:

Only a few hours. I find equal parts of glycerine and water dropped into the external auditory canal is as effectual as anything else. The glycerine will dehydrate the tissues and take off some of the pressure which is causing the pain.

The post-nasal space has been overlooked in this discussion. I have found it practical in all these cases of middle ear trouble to examine the post-nasal space, and if this is done you will find in most cases that the inflammation has come from that. There is infection there which has crept through the Eustachian tube and infected the middle ear, and from there it may go on into the mastoid unless it is checked. While I am trying to relieve the patient of pain I do not forget to examine the post-nasal space, and nothing is so effectual in cutting short this complication of the post-nasal space as a fifty per cent solution of resorcin in alcohol, applied with a local applicator. It relieves pain, cuts short the congestion in the Eustachian tube, and you will get drainage. And so the proper treatment of the post-nasal space, which should not be neglected, is one of the essentials in treating middle ear troubles, and that is simply to cut the matter short and prevent it from going on from eight to ten days, and possibly resulting in mastoiditis. As an internal treatment I would not forget this: mild, broken doses of calomel and aspirin, which I have found effectual in these cases in opening up the secretions.

DR. L. B. GRADY, Nashville (asked to speak a second time):

I think I have said pretty nearly enough. I would like to ask this gentleman how he expects a solution of cocaine to anesthetize a dermic surface?

DR. DULANEY:

The cocaine is given to relieve pain.

DR. GRADY:

I have tried it some two hundred times, and I have relieved pain with it. But I think all of the frills and ruffles ought to be discarded. There are two distinct kinds of pain in the ear: One from infection—never mind where it comes from. We all know it comes from the post-nasal space, and Eustachian tube is practically

immune to infection of any kind. So infection of some kind gets into the middle ear, and there the organism, whatever it may be, starts up mischief, swelling, and with inflammation of the mucous membrane causes pain. I do not want to say anything to cause anybody to feel that they have been the least bit indolent or have overlooked anything, but if you will think for a moment, you will realize that more than fifty per cent of acute otitic troubles get well without any treatment, and you do not need cocaine in these cases; you do not need atropin or boric acid, or anything else except a little coddling of the child. I say that fifty per cent of the cases of this nature will get well without any treatment. If you drug them and they get well, then naturally the doctor claims that he cures them. The other pain is due to pressure, and these are the cases that get well. The father is awakened at night by the baby crying with earache. He gets out of bed, steps on a tack, says his prayers, and goes back to bed directly after some simple application. The next day the child is up and about as lively as ever. The pain comes on about the same hour the next night, and the father hunts for another tack. The baby goes to sleep directly after he has applied goose grease or olive oil to the ear, and the next day the baby is all right. The earache disappears and the child has no more pain. That is the pain of pressure, and it is caused by an exudation of the mucous membrane lining the drum cavity of the same character as you have an exudation from the Schneiderian membrane in case of cold. You take cold, and you are constantly using your handkerchief, whether you have pus or not. That exudation may be due to an infection or not, but if it is due to an infection it is likely to go on to a suppurative condition, I don't care what you do. You may put the patient in bed; you may fill the ear with cocaine, olive oil, chloroform, atropin, boric acid, or anything else, and you still have suppuration if you had infection to begin with. These things applied to the external auditory canal will not destroy the organisms within. As a matter of fact, if you stop and think for a moment you will realize that these things are purely palliative, and unless a man can see the drumhead and know what to do with it, he ought not to treat it at all. If you cannot see the drumhead, you had better let it alone. All these things are palliative, and to wait a few hours and then puncture the drumhead is bad practice. What is the use of waiting when you have got a bulging drumhead? That is all you ever get unless you

wait for it to rupture. It is not uncommon to incise the drumhead within thirty minutes after the attack. As soon as I find bulging of the drumhead, if there be severe pain, I incise it. If there is not severe pain, but simply deafness and over-filling of the ear, I never incise it. It is an old practice to let out the serum. I learned it twenty-five years ago from Politzer. He incised every drumhead where the hearing was at all thick. He blew up the ear with his bag and brought hearing to a normal condition. After that teaching, for a few years I kept it up. I found that an incision made in the drumhead where there was no infection in the drum cavity was simply an open door for external infection, and therefore I gave it up. Practically all of these cases of sub-acute otitis media will get well without anything.

THE PRESIDENT:

What do you do for the pain?

DR. GRADDY:

They do not have pain in sub-acute otitis media. The subject is otitis media, but nearly all of the discussion has turned on sub-acute otitis media. There is no pain in sub-acute otitis media. It is improperly named. Otitis media means infection. There is constant pain, which emphasizes the importance of incising the drumhead instead of waiting, and I believe we should keep external applications out of the case because they are misleading. It is very important not to give an analgesic internally, such as opium or aconite. That belongs to the sixteenth century. At that time it was strongly recommended, was considered one of the best remedies we had then for circumscribed acute and general inflammations, attended with fever, but should no longer be used.

DR. C. V. STEPHENSON, Centerville:

I have enjoyed this paper very much, and also the discussion. I have not seen many cases of acute otitis media, but I have in mind at present a case that I wish to report. This case came under my observation some two months ago. In this case I was at a loss to know what the trouble was, and I am still that way today. I doubt very much if either of the gentlemen who saw the case with me knew what the condition really was. Dr. Graddy has just said that we do not have pain in sub-acute otitis media. I am going to report this case to you briefly, and will ask Dr. Savage in closing the discussion to throw some light on it if he can do so from the brief description that I shall

give. I have been at sea with regard to the nature of the case because my patient died. The case was a little girl, seven years of age, whom I was called to see one afternoon. I did not think there was much the matter. The mother told me she had given the child some home remedies for cleansing the bowel. I made a second visit, the next morning, and noticed that the child in speaking sentences would stop at the third or fourth word and repeat the last word three or four times, and it would never finish what it wanted to say. In the afternoon I told the father and mother that I really did not know what the condition was, and asked for consultation. The child did not have any pain at this time, but it had a temperature of 101. Respiration was not very good. In examining the throat, nasal passages and ears, I noticed a slight inflammation of the internal ear, and the nasal membrane was somewhat congested. There was a slight frontal pain. The child in touching its head or brow would complain of pain. On the third day a physician from Nashville was called. He insisted that the case was one of tubercular meningitis, but I was not prepared to concur wholly in that diagnosis, and I have not felt that was the condition. The child drifted along for two or three days, and I was still at sea as to what to do. Dr. Graddy has said that many of these cases recover. I had been taught that and was hoping the child would soon be better. I did not see any special indication for giving drugs, as the child was in a stupor all along. The third day another practitioner was called to see the case, and he said it was meningitis, but not tubercular meningitis. The child would lie in a stupor, and the temperature never ran above 102, respiration being 40 or 50. About the tenth day of the illness of the child a suppurative condition developed, and there was a little discharge not only from the mouth, but from the ear. The child died on the eleventh day of the illness, and nothing was done that seemed to be of benefit for its relief. I was of the opinion that the trouble was internal, and am still of that opinion. I believe that this stupor was due to a toxic condition. I should be glad if some member can throw any light on the nature of this case.

DR. SAVAGE (closing the discussion):

I have always thought that if my friend from Nashville (Dr. Graddy) had not studied medicine before I began to teach, I might have been able to teach him a little bit. (Laughter.)

One word about the pain of pressure. What

is that pressure? When the pain passes off and the patient is easy, was it due to pressure in the ear or pressure on the outside of the ear? If the pressure was in the ear, then the pain would not have vanished so easily. That kind of pain is produced by atmospheric pressure pushing against the drumhead, because of temporary closure of the Eustachian tube and absorption of air to a point that is below normal in the drum cavity. The little child swallows, and the pain vanishes. What has relieved that earache? The air has been forced up the partially closed Eustachian tube and the external atmospheric pressure has been relieved thereby. After awhile it will develop pain again, and it will swallow again and the pain will disappear. My paper covers inflammations of the ear, of both the catarrhal and suppurative forms.

A word about specifics. I have said nothing about them. What I have stated is the absolute truth from observation which has been exemplified many, many times, and I am glad to give you the result of these observations. The question has been asked, How can atropin and morphin dropped into the ear affect the condition inside the drum cavity when there is no perforation of the drumhead? Atropin and morphin dropped into the ear does produce a beneficial effect in the relief of pain and cure of the inflammation. Just how, I am not able to say except that every one knows atropin invites blood to the capillaries and probably a fresh supply of blood is brought to the mucous membrane lining the drum cavity and drumhead itself, bringing with it the scavengers of the body, the white blood corpuscles, which pass out of the blood vessels into the drum cavity and destroy the germs. I have no other explanation for the relief which is afforded these cases, but the relief comes.

I have had far more cases of ear trouble this past winter than during any corresponding length of time in all my professional career. Some of these patients I have not visited at all because the practitioner in charge would call me up, and perhaps I could not go just then to see the case with him, but have told him to "do so and so," and if the patient does not get better, I will be glad to come and see the case with him. I have not had in all the cases seen, this winter and this spring, particularly those that have been seen early, or those in connection with other physicians who have called me early over the telephone, any instances in which there was periostitis, and certainly no mastoiditis. There has been no patient passing through my hands this winter who has been subjected to a

mastoid operation, and the treatment I have outlined to you is the plan I have followed all the winter through. This experience has not been the experience of one winter, but I have been using atropin and morphin solution for twenty-five or thirty years, and never divorced the morphin from the atropin, a statement having been made to the contrary notwithstanding. It is an error in statement. I have always used the formula which I have given to you today, and I wish I knew from whom I got it. For at least twenty years in suitable cases I have followed this line of treatment. I have used the chloroform and olive oil treatment in early and suitable cases. I do not know how olive oil and chloroform act in subduing pain any more than I know how atropin and morphin act in subduing pain, but I do know that this mixture *acts*. The counter-irritation behind and in front of the ear, by means of aconite and iodine, can do a patient no harm, and I am quite sure it does good, and I always prescribe it. I do not wait for any swelling behind the ear. There is always more or less tenderness on pressure in front of the ear.

If I ever used the word "*criminal*" in any talk I have made concerning the use of "*specifics*," then I want to apologize for so doing in this presence. I have no recollection of accusing a brother practitioner of a crime.

As to the satellite, I did not know that I had satellites revolving around me, just as the moon revolves around the earth, but if I am thus afflicted, I trust that these satellites will shine even if they have to shine by a borrowed light. (Laughter.)

Now, Mr. Chairman, in closing, allow me to say that the statement of my friend from East Tennessee relative to the use of fifty per cent of resorcin in alcohol is brand new to me. He told me about it last night. It appeals to me, and I am going to use it. Anything that a man can give to me and say that it serves a good purpose in his hands, if I cannot see it is going to be harmful, than I am going to try to see if it will not do good.

My paper will appear in print, as I suppose that the committee on scientific work will endorse it for publication. If you do not remember what I have said, I hope you will read it. I have absolutely told you the truth. I have told you the truth in your own interest and in the interest of your patients. If you use the formulas in the manner I have outlined them to you, you will get results just as certainly as I am standing before you. A do-nothing method must lead to many mastoid operations.

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WE herewith give the preliminary program up to date, in order that all those whose names appear, both to read papers and to open discussions, may make their arrangements to be present and to participate. It is very necessary for the success of the meeting that every paper should be prepared, typewritten and fully corrected, so that when placed in the hands of the Secretary it shall be complete. Another very important factor is an abstract of every paper. This was called for in the request issued by card for the program, and as we wish to commence compiling the permanent program immediately, you are urged to send at once an abstract of your paper, letting the abstract stress the important features to be presented, so that the party who will open discussion may have an idea of the subject-matter before the reading of the paper. Many of those who have presented papers have designated some one to open the discussion. In other cases gentlemen have been selected to do this and their names inserted in program in order to have it complete. If for any reason the suggestions made by your committee do not meet with your approval, notify the Secretary, giving name of the party you wish to open discussion, calling

attention to the number of the paper, in order that the change may be made upon the permanent program. If no one has been designated to open the discussion upon your paper, then notify the Secretary at once so that he may insert the name in the permanent program.

From all indications the meeting will be a very interesting one indeed. *If you have not sent in a request for a place upon the program and desire to read a paper, please notify the Secretary at once, giving title, party to open discussion, and abstract.*

PROGRAM.

1. Intestinal Indigestion. What Is It? What Causes It? What Are Its Diagnostic Signs and Symptoms? How Should It Be Treated?

Chas. P. McNabb, M.D., Knoxville.

To open discussion, O. H. Wilson, M.D., Nashville.

2. Some Remarks Upon Cancer, with Especial Reference to Cancer of the Breast.

Holland M. Tigert, M.D., Nashville.

To open discussion, L. E. Burch, M.D., Nashville.

3. The Treatment of Peritonitis.

Richard A. Barr, M.D., Nashville.

To open discussion, S. R. Miller, M.D., Knoxville.

4. Radium.
G. P. Edwards, M.D., Nashville.
To open discussion, Dr. Geo. H. Price, Nashville.
5. Light, the Right and the Wrong Kind.
H. E. Geotz, M.D., Knoxville.
To open discussion, G. C. Savage, M.D., Nashville.
6. Pneumothorax.
Joe Clifton, M.D., Hickory Valley.
To open discussion, K. S. Howlett, M.D., Franklin.
7. Eye-Strain; the Results of Accurate Refractive Work.
Thos. F. Staley, M.D., Bristol.
To open discussion, H. B. Kincaid, M.D., Memphis.
8. Spina Bifida Based on Seven Operations.
B. B. Cates, M.D., Knoxville.
To open discussion, Jere L. Crook, M.D., Jackson.
9. Fractures of the Tibia.
Paul F. Eve, M. D., Nashville.
To open discussion, Cooper Holtzelaw, M.D., Chattanooga.
10. C. C. C.
C. C. Mason, M.D., Maryville.
To open discussion, Kahle Donoho, M.D., Knoxville.
11. Diet in Typhoid Fever.
K. P. Elam, M.D., Idol.
To open discussion, O. R. Tomlinson, M.D., Tate Springs.
12. Periodic Alcoholism, the Influence of Intestinal Toxemia in Bringing on a Spree.
Geo. E. Petty, M.D., Memphis.
To open discussion, Chas. P. McNabb, M.D., Knoxville.
13. Significance and Surgical Treatment of Uterine Displacements.
R. M. McCown, M.D., Knoxville.
To open discussion, J. A. Gaines, M.D., Nashville.
14. Pellagra with Report of Case.
Enoch H. Jones, M.D., Murfreesboro.
To open discussion, J. M. King, M.D., Nashville.
15. The Relationship of Food to Disease.
E. A. Timmons, M.D., Columbia.
To open discussion, R. W. Billington, M.D., Nashville.
16. Ophthalmia Neonatorum from the Standpoint of the Obstetrician.
Elizabeth C. Kane, M.D., Memphis.
To open discussion, M. C. McGannon, M.D., Nashville.
17. The Traumatic Neuroses Resulting from Alleged or Actual Injury as Viewed by the Medico-Legal Expert.
Raymond Wallace, M.D., Chattanooga.
To open discussion, Duncan Eve, M.D., Nashville.
18. Chronic Affections of the Hip.
W. C. Campbell, M.D., Memphis.
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VOL. III.

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To Secretaries of County Medical Societies:

The office of Secretary of the County Medical Society, to which you have been elected, is the most important position in your County Organization, and in fact the County Secretary is the most important factor in the State Association, for upon him depends the success of the County Organization. No man should undertake the duties of Secretary unless he is ready to work for the good of his Society, and unless he is peculiarly interested, he should not enter upon these important duties. The Secretary is responsible for detailed data and reliable information concerning the individual members of his County Organization as well as other physicians in his County. He should keep a list of members alphabetically arranged, which list should give name, postoffice, county, date of graduation, date of license, Alma Mater, and date of joining the State Association. See form in JOURNAL No. 9, February, 1909. Every County Secretary should be familiar with the By-Laws governing County Organizations. The By-Laws of especial inter-

est to County Secretaries will be found in the Transactions of 1907, page 373, Chapters IX and XII, inclusive. I would suggest to County Societies that the office of Secretary and Treasurer be combined, for experience has shown that one man can do this work to greater advantage than two, and that many mistakes will be thus avoided. Every County Secretary should make it a point to know in person and keep in touch with every member of his local Society. He should, also, see that every member is notified of every meeting. Frequent meetings of County Societies should be encouraged. Programs should be arranged in advance and members notified as to what subjects will be discussed and who will discuss them. Every County Society should have a fixed place and date of meeting. If County Secretaries will become enthusiastic, their enthusiasm will permeate their County Organizations. The present indications are that this will be a most successful year, and a great part of the success will depend on County Secretaries. Let us have your best efforts.

JOURNAL

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VOL. III.

NASHVILLE, TENN., APRIL, 1911

No. 12

REPORT OF A SUPPOSED CASE OF ASCITES.

✧ BY E. M. BEASLEY, M.D., COAL CREEK, TENN.

D. F., AGED 49 YEARS, a native of South Wales, came to the United States at the age of two years. Was raised in Pennsylvania, but had lived at Coal Creek the greater part of the last eighteen or twenty years.

He was a coal miner by occupation, was married, the father of three children, all of whom are stout and healthy. Family history good, father died at the age of 72 years, mother living now, 93 years old. He had three brothers and three sisters all living, the greater part of them older than himself.

He had never had any serious sickness, was never sick enough to call a doctor. He was not a constant drinker, though drank to excess at times.

Twenty-one years ago he was kicked by a mule in the right side, over the liver. This gave trouble for some time. Afterward his abdomen began to enlarge, but never gave him any great amount of trouble until January, 1909, when he was unable to go into the mines for six or eight weeks. At this time he lived in Oklahoma, but he came back to Coal Creek last June, and began to work in the mines there. The latter part of August he was compelled to quit work. At this time his abdomen was so large he could not bend or stoop, so as to get around in the mines.

On August 20 I examined him, found his temperature normal, pulse 80, respira-

tion 20, appetite good, no albumen. He was considerably emaciated, complained of some pain over the liver, though no tenderness on pressure. Abdomen was so distended it was impossible to tell whether liver was enlarged or not.

Diagnosis was ascites caused by cirrhosis of the liver. I gave various hydragogue cathartics and diuretics without any effect.

September 10 I attempted to aspirate, but got less than a pint of fluid, and the trocar blocked up with fibrin. In about a week I tried aspirating again with about the same result. Then a week later I tried an aspirator with one-eighth caliber, but got no fluid, the needle filling up with fibrin.

I then advised him that it would be necessary to open the abdomen in order to get shed of this fluid.

On October 8th I opened his abdomen, first making a small incision in the median line between the umbilicus and pubis. On opening the peritoneal cavity the incision filled up with a cheesy mass which soon passed out. After this a one-half gallon or more of fluid of an amber color escaped. The incision was then enlarged, when cysts of various sizes from a small marble to a croquet ball, together with a large number of collapsed cysts, began to roll out. It was necessary to rupture a great many of the cysts in order to remove them.

The abdominal cavity was completely filled with these cysts. Some of those that were collapsed showed that it had been sometime since they ruptured. These cysts had no attachment to anything, but were packed in the abdominal cavity until there appeared no room for more.

The small bowels were pressed up against the diaphragm. The peritoneum and all the abdominal organs had a yellow enemic appearance. Their walls were considerably thickened, and had a rough granular feel.

The first twelve hours after operation went well with him. After this his heart began to fail. In twenty-four hours his temperature began to run up, and before he died it went to 104.2-5 F. He died thirty-six hours after operation.

My final diagnosis is Echinococcus cysts of the peritoneal cavity. Possibly he had Echinococcus cysts of the liver at the time the mule kicked him. This I think was at that time ruptured into the peritoneal cavity, where they began their growth.

DISCUSSION ON THE PAPER OF DR. BEASLEY.

DR. J. J. WALLER, Oliver Springs:

I did not see this case of Dr. Beasley's. I talked with him over the 'phone concerning it,

and my idea at the time was that it was a case of echinococcus cysts. I can hardly conceive how such cysts could breed in the abdominal cavity without attachment. The diagnosis of this case would evidently have been cleared up by an autopsy, and I understand that was not granted, and perhaps we will have to go without positive information. I do not understand how these cysts can grow without attachment to some organ; but Dr. Beasley concludes that probably in some mysterious way they emanated from the liver. That opinion is only theoretical. The case is very interesting and should stimulate further thought and investigation to understand such curious things.

DR. NEWTON EVANS, Nashville:

This is a very interesting case, and the doctor's diagnosis is probably correct—namely, that they are echinococcus, or hydatid cysts of parasitic origin. But if a microscopic examination has not been made, it would be interesting to make a further examination of the fluid contents of these cysts and cyst walls. Although there is no question, I suppose, about the nature of the cysts, still that ought to be settled definitely by microscopic examination.

DR. BEASLEY (closing):

I was not able to make a *post mortem* examination on this case, and I neglected to have a microscopic examination made.

TUMORS OF THE URINARY BLADDER.

BY E. M. SANDERS, M.D., NASHVILLE.

TUMORS of the bladder are rare, but when they do occur they are so fatal, with or without attention, that the early diagnosis and radical treatment becomes one of unusual interest. Knister says that about one-fourth of one per cent of all tumor work is for tumors of the urinary bladder, and Alberan tells us that Necker found four per cent in genito-urinary surgical cases.

They are most frequently seen between

the ages of fifty and sixty years, but may appear in infancy or in old age. They are five times as frequent in the male as in the female.

The etiology is no better understood than tumors located elsewhere. The chemical irritation theory has been adhered to by many writers, as a large per cent has been noted among workers in aniline and other dyes. The particular phase of this question, however, which is most inter-

esting to us is whether or not mechanical irritation, such as the introduction of sounds and catheters, is a causative factor. After going over the literature thoroughly, I find that it is universally believed that such irritation, or preceding diseases of the bladder, the presence of stone or retention, does not predispose to tumor, except chronic ulcers and where a malignancy is secondary to some primary focus, such as cancer of the prostate. The relationship between stone and tumor has not been settled. Some authorities claim that the presence of stone is a predisposing cause; others claim that tumor predisposes to stone.

Rosenow says the etiological relationship between calculus and tumor cannot be denied altogether, and that calculus seems to favor the development of tumor in a larger percentage of cases than tumor favors the development of stone. However, Guyon, Alberan, Nitze, and Lincoln Davis all claim that stone in the bladder is not an etiological factor of importance. But the fact that tumor does favor the development of stone in many cases cannot be denied, as the secondary changes in the bladder which inevitably sooner or later develop in the presence of tumor furnished the very conditions which are most favorable to the formation of stone. The well-known frequency of calcareous incrustation of tumor is unmistakable evidence of this fact. Cases have been reported where stone has been found formed around detached fragments of tumors. It is interesting to note that out of 438 cases operated on for stone in the bladder in the Boston General Hospital, only one case subsequently developed a tumor; and in forty-two cases of primary tumor of the bladder collected by Davis, there was an association, either past or present, of true calculus in eight cases, which shows that in twenty per

cent of his cases tumor and stone existed simultaneously.

Cases have been reported where tumors of the bladder were present for a quarter of a century before the patient died of some intercurrent disease, but as a rule after the diagnosis is made the patient succumbs in from one to three years, dying of the complicating cystitis, pyelitis, exhaustion or metastasis.

A very large percentage of these cases are not referred to the General Surgeon or the Genito-Urinary Specialist until the condition is inoperable, which fact should stimulate us to diagnose these cases and operate on them before it is too late, as we are now doing for malignancy of the breast, stomach, etc. If we did not have the perfected electric cystoscope, we might offer some excuse, but with the aid of this valuable instrument, tumors of the bladder can be positively diagnosed, not only as to their presence, but also as to their location, extension, multiplicity and sometimes pathology.

The general practitioner should not be expected to become an expert cystoscopist, therefore we must hope for relief from our present embarrassing statistics by bringing before the general practitioner the great importance of having a cystoscopic examination made in all suspicious cases, wherever bladder disturbances such as frequent urination, terminal haematuria, a slight hemorrhage after over-exertion, and especially a symptomless hemorrhage which is so pathognomonic of tumor, are found. As slight hemorrhage may occur from time to time without the notice of the patient, one should not trust absolutely on the hemorrhage to appear before investigation.

There may be pain in the region of the kidney, due to the damming back of urine, as there are ureteral changes in a large per cent of these cases, and Fenwick claims

in all of them. Therefore, he warns us not to examine the patient until the hemorrhage has cleared off, and then to use the urine naturally accumulated in the bladder as a medium, when possible. This is especially important when cystitis and pyelitis exist.

In the exact study of these neoplasms the cystoscope is indispensable, but we must not forget that some danger attends its use, especially in the hands of the amateur, and care should be taken not to over-distend the bladder, and the utmost gentleness should be exercised. Fowler reports a case where the use of an air dilated cystoscope so aggravated an hemorrhage caused by a very small tumor that the patient bled to death. The hemorrhage from these cases usually ceases of its own accord, but in about six per cent the bleeding is alarming. As a rule, the hemorrhage is the first symptom the patient notices, and precedes the stage of cystitis in eighty-four per cent of cases. It may cease within a few hours or days, and not recur for weeks, or even years, then without warning the blood reappears. Little information can be gathered as to the malignancy of the growth from the character of the hemorrhage, but Casper says that it has been his experience that a constant hemorrhage means a well-established malignancy.

In fifty per cent of the cases reported by Davis the first symptom was hemorrhage, and present in all but one. The stage of cystitis may come on rapidly, or may not appear for years, but when it does come, it not only brings great distress to the patient, but raises the mortality rate if operation is done. Fenwick says that cystitis without hemorrhage comes in ten per cent of cases.

Pathologists and surgeons classify these neoplasms various ways as to the tissue from which they spring, their microscop-

ical appearance and characteristics; but to the patient practically all tumors of the bladder are malignant, as they usually destroy life rapidly, and with great suffering.

About eighty-five per cent of all bladder tumors are of the papilloma variety, more than half of which are carcinoma when removed. This large per cent of malignancy can be accounted for from the fact that in most cases the tumor has been present so long that sufficient time has elapsed in which malignant degeneration can take place. The constant irritation of the villi and base of a benign papilloma by the function of the bladder must tend to promote this malignant degeneration.

The smooth surface tumors of the bladder are usually malignant from the beginning; they may be sarcoma or carcinoma, or they may be rare pathological curiosities such as myoma, myxoma, fibroma, etc.

In 1905 Wilbur collected fifty cases of primary sarcoma of the bladder. He says they are most common in childhood, and that they are more rapidly fatal in children than in adults. They are usually sessile, single at first, but later becoming multiple. Metastasis is slow compared to the time for the same process to be established from cancer in other locations of the body. Carcinoma which is not of the papillomatous variety is very rare, and when it does occur, it is usually secondary to carcinoma of the prostate, uterus or rectum. Mandelbaum claims that fibro and adeno-carcinoma are practically always secondary to primary cancer of the prostate, and that the original focus may be so small that detection is difficult.

Infiltration sufficient to be detected by rectal or vaginal examination may occur within two months after the first symp-

toms appear, but in fifty per cent of cases it will be about a year, and in eighteen per cent of cases this sign cannot be found until after two years, which fact shows us that we should not depend upon this procedure as a method of diagnosis.

Inasmuch as these tumors are so prone to become malignant, and as the diagnosis is usually made late, palliative treatment should not be recommended, except for the relief of distressing symptoms, until a radical operation can be performed, as palliative measures subject the patient to the dangers of cystitis, pyelitis, metastasis and perforation. When the diagnosis is made, a radical cure should be undertaken, if such is possible in the judgment of the operator, who must be guided in the choice of operation by the variety, size, location and multiplicity of the neoplasm. A small pedunculated papilloma may be successfully removed by the operating cystoscope by the most skilled, but this method is not to be recommended to the general surgeon, on account of the delicacy of the procedure, and the expert should use it with great care, inasmuch as the base of the tumor or a fragment may be left behind to recur or become malignant.

The perineal and vaginal routes are seldom, if ever, feasible, therefore we must adopt the supra-pubic route where the tumor springs from the vault or walls of the bladder. But as about seventy-five per cent of tumors have their attachment near the trigone, the abdominal route should then be chosen, which procedure offers us by far the greatest hope for a permanent cure. By this method practically all of the bladder wall can be inspected, which is important as small papilloma fall to the side of the bladder when it is empty, and may be overlooked. It also allows the operator to remove the base of the tumor, preferably with the

cautery, or resect the bladder wall, which is the most important factor in the permanency of the cure.

The hemorrhage can be more satisfactorily controlled, and the whole operation done more exactly on account of the great ease with which instruments can be manipulated in the bladder. This method also affords the opportunity of a thorough examination of the iliac glands and abdominal viscera, so the operator can ascertain whether or not the malignant deposits have extended beyond the immediate glandular apparatus before he opens the bladder, which, if he finds to be true, should prompt him to deter from undertaking a radical extirpation of the growth, and be content with doing a supra-pubic or perineal cystotomy for the relief of the symptoms. The bladder wall can best be resected by this method, and if one or both of the ureteral orifices are involved, the ends of the ureters may be reimplanted into the vortex of the bladder.

The following frightful statistics, as given by Watson, prompt us to approach bladder surgery with great caution. Out of 679 cases operated upon by the supra-pubic route, an immediate mortality of eleven per cent followed the operation, where benign tumors were dealt with, and thirty-five per cent where the growth was malignant. And, taking the sarcoma alone, forty-three per cent died. Where partial resection of the bladder was done, twenty-two per cent died, and twenty-eight per cent of the benign and sixty-five per cent of the malignant tumors recurred.

I believe when we diagnose these cases early and treat them properly these figures will be greatly modified.

While this proves the possibility of cure of carcinoma of the bladder by supra-pubic partial cystotomy, it is very discouraging. The diagnosis has been made too late, or the operation has been faulty.

On the other hand, it is very encouraging to have Judd report fifteen cases of bladder tumors, nine of which were malignant papilloma, three true carcinoma, and three probable malignant papilloma, operated on by the abdominal route, with only one immediate death. This patient died from uremia at the end of the first week. Six of these patients have now lived over three years with no evidence of recurrence.

This report should encourage us along the line of radical treatment of tumors of the bladder, and stimulate a greater interest in the perfection of what must come to be the choice operation for nearly all cases. If an old standing cystitis is present, it is safer to do the operation in two steps, first opening and draining the bladder through a supra-pubic or perineal incision for a sufficient length of time to obtain a clean field, and then do the radical operation and maintain the original drainage as long as thought best in the individual case. It may be necessary to resect so much of the bladder that two-thirds of its capacity is taken away, but it will answer the purpose, and, according to Harris, will enlarge.

Drainage is not always necessary, but in most cases it should be established, either through the urethra by means of a self-retaining catheter or through the space of Retzius, and the intra-peritoneal suture line should not be drained. In cases of carcinoma, where one is suspicious of the prostate, it should be removed.

CONCLUSIONS.

1. A symptomless hemorrhage means tumor of the bladder until excluded by the cystoscope.
2. Palliative treatment should not be undertaken, and when the diagnosis is made a radical operation should be performed.
3. All cases should be carefully cystoscoped before operation.
4. All tumors of the bladder should be considered malignant from patient's standpoint, and treated accordingly.
5. The intra-peritoneal route is the operation of choice in about three-fourths of the cases, and should be used when in doubt, except by the most expert operators.

IRITIS.*

BY R. S. DOAK, M.D., NASHVILLE.

IN a discussion of inflammation of the iris, I think it is well that we should have an understanding as to its anatomical position and its relation to other structures. To give a description of its minute anatomy or histology would be out of keeping with a practical discussion of the subject which I intend this paper to be.

The periphery of the iris is attached to a supporting structure which comes mostly

from the ciliary body; this support also blends with the thickened fourth layer of the cornea in front. From this support it is suspended in the aqueous in almost a vertical plane to the antero-posterior axis of the eyeball, its pupillary border lying in contact with the crystalline lens which pushes it slightly forward. When the pupil is semi-dilated the pupillary border is freed from the lens, except in a full state of accommodation, when they may be brought in contact. The more

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widely dilated the pupil, the greater the distance its border is from the lens. This relation of the pupillary border of the iris, and the anterior part of the lens, is of much importance in inflammation of the iris. The iris is very richly supplied with blood, the larger part of which comes from the long ciliary arteries. The other source of supply is the anterior ciliary arteries which enter the eye just behind the junction of the cornea and sclera. The fullness of these latter vessels gives us the symptom of congestion at this point in inflammation of the iris and ciliary body. The close anatomical relation existing between the iris, ciliary body and choroid—especially the blood supply of these structures—makes it likely when one is involved that the other will be congested, if there is not an active inflammation developed. This is especially true of the iris and ciliary body. The size of the normal pupil, or what is the size normally of the pupil under examination, is of much importance in determining the condition of the iris. The average size of the pupil is given as about four millimeters. We find in the examination of many eyes much variation from this; so that each individual case must be determined for itself by comparison with the uninflamed eye or with the average pupil when both eyes are involved. The reaction of the pupil to light is another important condition to be noted. I think we are oftentimes more or less careless in this test as we are proceeding with our examination, and are thus led into error. To get a correct reaction, the patient should be placed facing a window or bright light, and the eye not under test should be well covered. The patient is then instructed to look directly at the light, which should cause a marked contraction of the pupil: the eye then being shaded by the hand or some other convenient article, the pupil will dilate, and,

on removal of the shade, the pupil will again contract. The error that is usually made is the failure to cover the eye which is not being examined. It should be remembered that the pupil is smaller in old age, and also in infants.

In a clinical study of iritis the close relation which exists between the iris and the ciliary body must be taken into account. The blood supply being the same for each structure, that portion of the blood which comes through the long ciliary arteries must pass through the ciliary body before it reaches the iris. Through this blood inflammatory material may be carried into the iris. When the iris is the first to be involved, it is not so likely to extend to the ciliary, as its transmission would be rather against the blood current. I do not intend from what I have said that you should understand that the blood is the only way in which inflammation is transmitted from the iris to the ciliary body. But in inflammation of either iris or ciliary, it is easy to see that when one is inflamed, the other may be more or less disturbed. When the examiner is familiar with the classical symptoms as they are found in the typical case, the recognition of inflammation in the iris in well-marked cases is a very easy matter; but unfortunately this ideal condition does not exist in the majority of cases. The symptoms as they are usually found in the typical cases are pain, photophobia, lachrymation, contracted pupil, congestion at the junction of the cornea and sclera, with a hazy condition of the iris and aqueous and a dimness of vision. The pain in many cases is very severe, starting within the eye and radiating to the temple and brow. The pain is described in different ways by patients as throbbing, boring, a continuous heavy ache, sometimes sharp-shooting in character. In some cases the pain is very

conspicuous by its absence. I recall a case I treated some months ago which was complicated by an inflammation of the ciliary body. The patient complained of a numbness about the eye, but had no marked pain at any time during the seven or eight weeks that the inflammation continued. The symptoms that were marked in his case were dimness of vision and circumcorneal injection. The pupil was dilated, but that was due to atropia having been instilled before I saw the patient. Many patients have the symptom of a foreign body in the eye, and will insist that it is still there, after they have been assured that the pain is due to a very different cause.

The symptom of photophobia is found in most cases of iritis, and is many times a very distressing one to the patient, but, being found in many other eye troubles, especially those that involve the cornea, it is of little diagnostic value unless taken with other marked symptom of iritis. It cannot be relied upon as a guide to the severity of the inflammation, as many severe cases have the symptom in a mild form.

The symptom of lachrymation is a very constant one, especially in the early stages of the trouble, and one which aids us very much in making a diagnosis, after we have eliminated the possibility of a foreign body being the cause of the symptom.

The pupil in a state of contraction is the condition found when the iris is inflamed—at least in nearly all cases it is found—and is a very marked symptom. One of the causes of this symptom is the increased amount of blood coming into the iris in its inflamed state, expanding it in the direction where there is least resistance. This increased pressure interferes with the motility of the iris; hence, an inactive and contracted pupil is the usual condition we find.

There are no cases of iritis in which we do not find, to a greater or less degree, congestion of the ciliary vessels at the junction of the cornea and sclera. This symptom indicates with some accuracy the amount of inflammation in the membrane, and is a very valuable guide in working out a diagnosis, if care is used in observing the character of congestion. It is found, as a rule, rather evenly distributed around the cornea, being somewhat increased at points adjacent to any point where there is an increased amount of inflammation in the iris. In the beginning of the inflammation the congestion is in the subconjunctival tissue, and can be easily located by moving the conjunctiva over the congested vessels. Later in the inflammation the conjunctiva becomes congested, and obscures to some extent the deeper congestion. Differentiating between the congestion of iritis and that of conjunctivitis is not very difficult. In iritis the congestion decreases as you go back toward the fornix, and in conjunctivitis it decreases from the fornix toward the cornea. In conjunctivitis the congestion is a brighter pink than it is in iritis. We have the same congestion in cyclitis that we have in iritis, except in cyclitis it is more in patches, and has rather a purple tint. The congestion has the appearance of being located deeper in the tissue also.

We have more or less dimness of vision in iritis, which is due largely to a pouring out of inflammatory material into the aqueous. The cloud which results obstructs the passage of light into the eye, and the resulting dimness in vision depends on the amount of the cloud present. This also explains, to some extent, the hazy appearance which the iris has when in an inflamed state. We have another cause of dimness in vision when the ciliary is involved in the inflammatory process. As a result of the inflamed and con-

gested condition of the ciliary, we have a relaxation of the ligament which supports the lens, and the resulting increased convexity in the lens gives us a myopic focus. This false myopia exists for some time after the inflammatory symptoms have apparently subsided, and if you are not careful to explain the condition to your patient, you may find that he has visited the man who grinds the glass to correct his error while he waits.

The importance of an early diagnosis in iritis leads me to say a few words under this head. There is no disease of the eye in which an early recognition of the trouble is of such importance, and in which a proper treatment will give such satisfactory results. The sad thing for both patient and doctor is to realize that adhesion has taken place between the iris and the lens, which results in a crippling of the eye, if not in a destruction of vision. I have had this impressed upon me very forcibly in a case which I am now treating. When I saw the patient some weeks ago, she had the characteristic symptoms which we find in an interstitial keratitis, with a complicating iritis. She had been treated by her mother for what she thought to be "sore eyes," and I want to say just here that this is a most common error, that of mistaking an iritis for a simple conjunctivitis. I found the pupillary border of the iris firmly bound to the anterior capsule of the lens, not yielding to atropia and other remedial agents used to break the adhesions. The keratitis is clearing up very satisfactorily, but the eye will always be a crippled one, regardless of what may be done to relieve it.

Many cases of iritis have few of the usual symptoms found in the typical case, therefore much care is necessary to locate the real disturbance. After noting the condition of the pupil, it should be dilated

so that any adhesions which may be there will be manifest. After the instillation of the atropia the pupil should dilate in from twenty to thirty minutes. If it does not take place within this length of time, it is an evidence of disturbance in the iris of some character, and should be thoroughly investigated. There will be no dilatation at the point where adhesions have taken place unless they are broken as the pupil dilates.

There is a pathological condition of the eye which is sometimes mistaken for iritis, and is the condition we call glaucoma. Many cases of iritis have been mistreated through fear of instilling atropia into a glaucomatous eye. I think the teaching as to the very bad result which follows the instillation of atropia into an eye in glaucoma is misleading. I feel quite sure that one instillation of a solution of atropia into an eye in which there is doubt as to whether you have glaucoma or iritis, can do little harm if any, should it prove to be glaucoma. Certainly the risk is much less than that we take when we leave an inflamed iris in contact with the lens to which it is most likely to become adherent, unless that contact is relieved. Should we have an extensive adhesion take place between the iris and the lens, we frequently have developed the condition for which we have had such dread, secondary glaucoma. I grant that we are oftentimes at a loss to know what procedure to pursue in these cases. I think when we have a contracted or normal condition of the pupil, and one that is rather inactive, we are always justifiable in instilling atropia, and thus find whether adhesions have taken place. This may be done even when we have an increase of tension, for your increased tension may be the result of these adhesions.

In searching for the causes of iritis we do not have many conditions to eliminate, as the majority of cases have for their

cause one of two conditions—syphilis or rheumatism. Syphilis has placed to its credit the majority of the cases of iritis. I think that it is safe to say it is the cause of the trouble in sixty per cent of the cases. This is including inherited syphilis. Thirty per cent goes to the credit of rheumatism, and the cause of the remaining ten per cent is found in traumatism, malaria and other fevers, gonorrhoea, gout and some other infrequent causes.

Is it strange, when the system is loaded down with the poison of the syphilitic state, that we should have an inflammation locate in the iris, when we have for the exciting cause the very heavy tax placed on the eye in reading and other work which demand almost their constant use during the day, and too frequently half the night? Many of these patients have been housed in warm, sometimes overheated, rooms, and go out in extreme weather without proper protection. The eye, then, in the congested state from overwork and the depression which comes from the change in temperature, yields to the heavy burden, and iritis is the result.

Iritis is not frequently found in children, except where we have it complicating an interstitial keratitis, and it is also rarely found in old patients except when the cause is traumatism. We usually find it between the ages of twenty and fifty, and very frequently in patients who are robust and in apparently good state of health.

There is a close relation existing between iritis and interstitial keratitis. We sometimes find a very hazy condition of the cornea on one side, with possibly no involvement of the iris, while on the other side the iris is inflamed, with little or no disturbance in the cornea. We can thus see the close relation existing between the two conditions. This leads me

to say here that we should always dilate the pupil when we have an interstitial keratitis, because of the frequency with which we have a complicating iritis with few of the symptoms of iritis being present.

In the treatment of iritis there are two things which especially demand our attention—that of placing the eye in a condition for best result after the inflammation has subsided, and to relieve the severe pain which we so often find in these cases. The pupil is usually dilated by the use of a solution of atropia of about four grains to the ounce. If this is not sufficient to give a full dilatation, a stronger solution should be used. Dionin used with atropia aids very much in dilating the pupil, and in the relief of pain also. I have found it valuable where adhesions have taken place, as they seem to yield more readily with the use of dionin. A sufficient amount of atropia should be used to keep the sphincter muscle in a state of rest. If it is not kept so, the efforts at contraction will cause much irritation and pain. Hot applications aid very much in the relief of pain, as well as assisting in bringing about a dilatation of the pupil.

Cocain is very valuable in the relief of pain, but care must be taken in its use, on account of the very destructive effect it has on the corneal epithelium. I rely almost entirely on atropia and dionin so far as local medication is concerned. We have developed in some cases, after a long continued use of atropia, a form of conjunctivitis called "atropine conjunctivitis." This is due to an infected solution, and not to the atropine. This is prevented by putting a few grains of boracic acid in your solution.

It is hardly necessary for me to say that after we have given due consideration to the local inflammation, that we should search out the cause of the trouble and use the best means to relieve it.

The great disturbance to vision in inflammation of the iris causes your patient to be very anxious as to the outcome of the trouble, and you will be asked many times during the progress of the case how much their vision will be disturbed when the inflammation has subsided. With a well-dilated pupil, when no adhesion has

taken place between the iris and lens, you may assure your patient of a good result in nearly all cases. When we have adhesions between the iris and lens it is necessary to be more guarded in your prognoses, as these adhesions may cause disturbance after the battle is over, and the victory apparently won.

ADENOIDS.*

BY C. B. WYLIE, M.D., CHATTANOOGA.

ADENOIDS, or hypertrophy of the pharyngeal tonsil, or as is sometimes called, "Luscha's Tonsil," is a condition met with by the physician, not only in infancy and childhood, but occasionally in adult life; and is characterized by enlargement of lymphatic tissue within the vault of the pharynx. In infancy and early childhood it is found as a soft, boggy growth, of uneven surface and bright pink in color; bleeding easily when touched. In adult life we find it as a smooth, firm, fibrous growth, but paler in color. This last condition not being met with so frequently, I shall confine my discussion to the conditions as met with in infancy and childhood.

The lymphatic tissue found within the vault of the pharynx is a part of what is known as "Waldeyer's Ring," which incorporates the lymphatic tissue around the mouths of the eustachian tubes, faucial and lingual tonsils. The functions of the nasal cavities are: respiration, regulation of pressure in the middle ear, moistening and warming the air inhaled, resonance of the voice and olfaction. The functions of the naso-pharynx are: that of a resonant chamber of voice modification, the preparation of moist, warm air for the middle ear and lungs, and drain-

age of the middle ear and accessory cavities.

ETIOLOGY.—Primarily, lymphatic tissue within the vault of the pharynx is a small, histological structure, undergoing absorption as adolescence is approached. Among the predisposing causes producing hypertrophied condition are: infection soon after birth, frequent attacks of acute coryza, eruptive fevers, such as measles, scarlet fever and diphtheria; unhygienic surroundings, lymphatic diathesis and inherited dyscrasia.

PATHOLOGY.—These growths, as they occur in infancy and childhood, consist of spongy, stellate projections from the vault of the pharynx, covered with a columnar, ciliated epithelium, which dips into the convolutions of the lobulated mass, and are surrounded by a delicate reticulum of connective tissue; it is very vascular, bleeding easily on touch. Its structure resembles very closely that of the oral tonsil, and along with these adenoid growths will usually be found hypertrophied faucial tonsils, with generally more or less involvement of the lingual tonsil.

In many cases the superior maxillary bone presents a contracted appearance; the roof of the mouth being narrow and considerably higher than the normal arch. This results from the necessities of constant mouth breathing; thus increas-

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ing the mouth cavity and decreasing the capacity of the nasal fossae, and by so doing, adds to the difficulty of nasal breathing and prevents proper drainage of that cavity. The septum is usually deflected; in some cases curved to one side, producing almost complete stenosis; at other times having a double deflection, causing more or less stenosis of both cavities by bringing the septum and turbinated bodies in contact with each other, resulting in more or less constant irritation of the mucous surfaces.

The pigeon breast.—The circular contraction of the thorax in the region of the diaphragm, the general condition of malnutrition, apparent in children afflicted with adenoids, are matters of common and frequent observation; and the general surgeon often attempts to relieve the condition by adenectomy. Thus far he has done well; but cases that have been neglected until the eustachian tubes and middle ears become involved, will necessitate additional and oftentimes long continued treatment to accomplish the desired results. While adenectomy relieves mouth breathing, allowing the child to breathe through the nose (the natural channel for breathing), this alone will seldom cure up tubal or middle ear catarrh. It is frequently found upon examination that a child will have a large adenoid growth within the post-nasal space, with a history of having had it a considerable length of time, without having any tubal or middle ear involvement; again, we may find tubal and middle ear involvement with very little adenoid growth in the post-nasal space. It does not require a very large amount of this growth, if it is situated around the mouths of the tubes, or immediately back and above them, in the fossae of Rosemuller on the lateral walls, to produce this trouble.

With the exception of tubercular otitis, perhaps every case of otitis media

proper has its origin in the naso-pharynx, which extends by way of the eustachian tubes to the middle ear.

In the majority of instances the general practitioners have their time occupied by acute diseases, and while observing a characteristic lack of proper facial development, fail to call the attention of the parent to the cause of the trouble.

SYMPTOMS.—There is difficult breathing, frequent attacks of acute coryza, ringing in the ears, catarrhal deafness, epileptiform attacks, hay fever, headaches and general debility. Mouth breathing, particularly at night, and altered voice are characteristic symptoms. Persistent nasal discharge, spasmodic croup, enuresis, night terrors, dilatory and criminal inclinations, noisy respiration are commonly met with. The substitution of B and D for P and T and M and N may be observed. The facial expression in pronounced cases will show extreme mental dullness. The eye is more or less lusterless, and the mouth open; the nose broad and flat at the bridge, while short and retreating at the tip; alae-nasi, or wings of the nose, at their juncture with the upper lip, are considerably contracted; the hard palate is high and narrow, because the muscular tongue has not kept its place in the roof of the mouth, resulting in the pushing forward of the upper incisors, and deformities in the nasal cavity. Follicular pharyngitis, high up in the pharyngeal wall, are common. Imperfect development of the body and progressive inanition are common in young children with adenoids. Kyle says: "Where they obstruct nasal respiration, there is always a decrease in hemoglobin and red corpuscles."

Ballanger attributes the contracted lateral chest walls, and the protruding sternum found in the rachitic, to adenoids. He has also attributed deformities, such as bow-legs, to the improper oxygenation

of the blood, and resultant lowered vitality of the adenoid patient. It is quite common to find children more or less anemic, constantly ailing for a greater or lesser period, due to a constant septic infection via adenoids; with slight rise of temperature, which may be constant or intermittent, and which is not influenced by drugs, that are promptly cleared up by adenectomy. It has been said, "That *adenoids* do mark their victims for mediocrity, we can scarcely dispute, for who in a whole lifetime has ever seen one strong, intellectual man with an adenoid face?"

The symptoms of adenoid growth differ somewhat in infancy and childhood. In infancy—that is, during the first year—there may be a history of snuffles almost from birth. They are particularly evident when the child is nursing, and will occur during sleep if the mouth is kept closed; while, if the mouth is kept open, snuffling will be replaced by snoring.

Adenoids of sufficient consequence to produce irritation, will also produce snuffles; and when large enough to obstruct the post-nasal pharynx, we then have more or less mouth breathing. On account of the smallness of the post-nasal pharynx in very young infants, it is sometimes quite difficult to determine the presence of adenoid growth. In order to make a successful examination in young children, it is important to be rapid in manipulation to avoid resistance. Mouth breathing, like snuffles, may be due to other causes than adenoid hypertrophy, but most of the causes of nasal obstruction, during the first year, are due to adenoid hypertrophy. The post-nasal pharynx at birth is very small—probably about one-fourth of an inch high, by one-third of an inch wide—so that a slight adenoid enlargement in early infancy will produce obstruction. At the end of the first year this space will be about twice this size.

The ideal time for the removal of adenoid growth is when they first produce symptoms, and particularly is this true during the first year of life, for children with lymphatic hyperplasia have one of the indications of lymphatic constitution, and may not be good subjects for anesthesia, while adenoids may be removed during the first year without anesthesia.

I cannot advise too strongly the importance of early attention to these conditions, as the appearance of this trouble interferes very materially with the proper development of the child; by reflex action, by the irritation produced by its presence, and by the obstruction it causes.

Repeated colds during this period, having the character of cold in the head, with some nasal discharge and slight fever, and which is sometimes accompanied by pharyngitis, are very strong characteristics of adenoid hypertrophy. A very characteristic sign of this condition is a cough, mostly persistent in character, often without any indication in the pharynx or bronchi to account for it. Sometimes it is paroxysmal, and may simulate closely the paroxysms of whooping-cough. Another common symptom of adenoids, during the first year, is otitis media; a complication which may produce dangerous results. Only one or all of these symptoms may be present, but *one*, if characteristic, is sufficient evidence of adenoid growth in the post-nasal space.

After the first year the symptoms are somewhat different. The snuffling is not so marked, the cough is less spasmodic in character, the mouth breathing, snoring during sleep, nasal discharge, are still present; the elevation of the roof of the mouth, narrowing of the upper jaw, the crowding forward of the incisor teeth, protrusion of the lips, flattening of the bridge of the nose, with contraction of the end of the nose, with a flat, metallic tone

to the voice, chronic suppuration of the middle ear, or more or less deafness will be observed. In pronounced cases we will find a lusterless, protruding eye and a general listless, idiotic expression. For in this condition we have the obliteration of the lines of facial expression; and at times enlargement of the post-cervical glands are observed; barring the "so-called" scrofulas or tubercular diathesis, I believe the chronic enlargement of the post-cervical glands to be pathognomic of adenoid growth in the post-nasal space.

In many cases resulting from this condition, in the posterior-nares there is a passive hyperemia, with more or less congestion of the mucous membrane, of the eustachian tube. Fibrous exudation and narrowing of the tube follows interference with rarefaction of the eustachian tube and middle ear; the tympanic membrane becomes thickened, congested and somewhat retracted. If this condition is allowed to continue any length of time, the ossicles will become agglutinated, and more or less deafness follows. Suppuration in the middle ear is a frequent sequella of adenoids. Many cases of acute and chronic otitis media get well with no other treatment than the removal of the adenoids, and subsequent irrigation of the naso-pharynx with a mild antiseptic and astringent wash; while others require considerable after treatment to accomplish the desired results.

DIAGNOSIS.—In diagnosing these cases there are a few symptoms that are characteristic; the facial expression will sometimes be sufficient evidence on which to make a diagnosis of this trouble. There is an alteration of speech; a continuous catarrhal discharge from the nose and throat is very suggestive; enlargement of the post-cervical glands, enlarged or inflamed faucial tonsil, snuffles in some children, snoring during sleep, or mouth

breathing when awake, or otitis media. In some children there is but little opportunity for making an examination in the posterior-nares. With older children who will not permit the use of a tongue depressor and a laryngial mirror for making an examination, the best plan which I have found is to have the child sitting in a chair, or in some one's lap, stand beside it with the left side against that of the child's right shoulder, placing the left hand on the left side of the child's head, holding it firmly against the hip, have the child open its mouth, and with the tips of one or two fingers press the cheek between the teeth; when the index finger of the right hand can easily be passed behind the soft palate, into the naso-pharynx. This procedure necessarily must be done quickly to avoid resistance. In some few cases it will be found that the growth has extended so low that it can be seen protruding below the soft palate. In passing the finger into the naso-pharynx a soft mass may be felt which bleeds easily on touch; the finger will oftentimes be tinged with blood.

PROGNOSIS.—The prognosis of these cases should be favorable if proper treatment is instituted early. In advanced cases pronounced deformities of the face may never pass away. However, care and proper attention to their correction, in bandages and instruction in proper nasal breathing, will, in many cases, be of decided advantage. Deafness, as a rule, which is one of the most frequent complications, is generally relieved by adenectomy and suitable after treatment. The great majority of cases of catarrhal deafness in after life is directly traceable to post-nasal adenoids in youth.

TREATMENT.—It should be the object in any form of treatment to place the nares and the naso-pharynx in as near normal condition as possible.

Treatment necessarily consists in thorough and careful removal of all vegetations, under local or general anesthesia, as may best suit the individual case. It is essential that we operate as soon as obstructive or other symptoms appear, that the operation may be thorough (and here I may say that thorough work can never be done with the finger), and that the eustachian orifices be not injured. We occasionally meet with conditions presenting adenoid enlargements due to a cold, with no previous symptoms; such cases under hygienic treatment, with suitable medication, will occasionally disappear without operation. For chronic enlargement, however, there is but one rational treatment—that of removal by operation. Such operations in infancy can be done quickly without an anesthetic, with practically no shock to the child, and no lasting fright. However, in some cases, the parents will object to having anything done without a general anesthetic is administered; in which case they should be advised of the possibility of a lymphatic constitution and consequent danger from anesthesia.

It frequently happens in these cases that we find a history of continued slight rise of temperature, due to absorption of septic material through these growths; such rise of temperature is not a contra-indication of operation. In such cases the temperature will almost immediately drop to normal, following removal of the growths. It is sometimes observed following these operations that the snuffling which had been present may be increased for a few days, but they soon subside; deafness may also be worse for a few days, due to swelling. Rarely is there ever any fever or evidence of pain, and the subsidence of symptoms, and the development of the child, is found quite striking.

The mode of procedure in operative treatment differs somewhat, according to

age and condition of the patient. In a child under one year of age it is not advisable to give a general anesthetic, as they take general anesthesia poorly—particularly those of lymphatic tendency. Neither is it advisable to use local anesthesia with children of this age; there will be but little pain or suffering from the removal of adenoid growth in the post-nasal pharynx. The method of procedure should be: First, the proper preparation of the child, so they may be firmly but gently held in a sitting position, in the arms of an assistant or nurse; the gag should then be placed in the mouth, preferably a self-retaining gag, such as the Whitehead), and with a small Gottstein curette (or some modification of it, as best suits the individual operator), the tongue is held down with the finger of the left hand, and with the right hand the curette is turned on its side, passed into the mouth back of the soft palate, and up into the post-nasal pharynx, where it is turned to an upright position; then with a slight backward and downward motion, the curette will engage the adenoid growth, removing all or most of it with one sweep. It may be necessary to repeat this two or three times in order to thoroughly remove all particles of the growth. Care should be taken that the curette is not permitted to leave the median line, as by so doing the mouths of the eustachian tube may be injured, thereby producing trouble in the tubes; the finger, which must be thoroughly sterile, is then passed into the post-nasal pharynx, and a search made for any shreds or remaining growth; the child is then tilted forward and the gag removed, so that the particles of the growth and blood may be expelled. Profuse bleeding lasts, as a rule, but a few moments. Children at this age cry but little, and make but little manifestation of discomfort. With children past one year of age a gen-

eral anesthetic should be given, except where it is clearly contraindicated, for it is scarcely possible to completely remove the growth without injuring the mouths of the eustachian tubes, except under general anesthesia. Along with these conditions will almost invariably be found a condition of hypertrophy of the faucial tonsil, which calls for their partial or complete removal. This being somewhat painful, considerable resistance is met with, unless a general anesthetic is given.

In some cases, among older children, these operations can be successfully done with local anesthesia. In which case a ten to twenty per cent solution of cocaine, with or without the addition of adrenalin, on a bent cotton-tipped applicator, passed into the post-nasal space, will produce enough anesthesia to permit the operator to remove the growth without resistance from the child.

In the case of older children affected with this trouble, after a thorough removal of the growth and curing up of such tubal or sinus trouble, as may have been produced by it, where a deformity of the maxillary bone has taken place—such as the high arching of the roof of the mouth, contraction of the jaw, with protruding of the front teeth—the child should be given into the hands of a competent dentist to correct this deformity, as far as possible, which in many instances can be done without much trouble if proper dental treatment is instituted. The high arched palate will be reduced and the superior maxilla broadened. This line of treatment should be carried out at an early age. Such cases coming into our hands at a late date, or under unfavorable conditions, will require a submucous resection of the septum, or some other operative procedure, which shall tend to restore the normal caliber and circulation of the nose.

Infrequently we encounter hemorrhage

following adenectomy, either immediately or several hours after operating, even as long as from twenty-four to forty-eight hours. However, seldom as these conditions are met with, we should be prepared to deal with them in a practical way. If, immediately after these operations, a tendency to bleed is manifested, it is well to pass a bent cotton-tipped applicator, previously saturated with tannate of glycerine, into the vault of the pharynx, sweeping it back and forth a few times, to thoroughly coat over the bleeding surface. This will generally be all that is required to stop the hemorrhage. In very rare cases, however, bleeding will continue or start up after a lapse of several hours; and unless cold applications to the face, or the application of tannate of glycerine to the vault of the pharynx is found sufficient to control the hemorrhage, we should then proceed to pack the post-nasal cavity without delay. Sometimes the packing in one side will be sufficient. This is done in the following manner:

Take a small pledget of cotton, tie a strong cord around the center of it, saturate it with codrenin, then by taking a small, soft, rubber catheter, which has previously been split near the end to form an eyelet, pass it along the floor of one nostril until the end of it appears in the mouth; then with the mouth open it is grasped by a pair of forceps and pulled out far enough to pass the end of the cord to which is attached the cotton, through the eyelet; the catheter is then drawn out of the nostril, and with it the end of the cord. Continue to pull the cord until the pledget of cotton has been drawn up into the vault of the pharynx, and while making slight contraction on the cord with one hand, the finger of the other hand should be passed back of the soft palate, pressing the cotton well into place: care should be taken to avoid packing so tightly as to interfere with swallowing.

After which ten to fifteen drops of Monsell's solution is injected into the nostril, and a small piece of cotton or ganze is then shoved through the nostril until it comes in contact with the pledget of cotton in the vault of the pharynx. The end of the cord projecting from the nose should be fastened on the cheek with a piece of adhesive plaster, where it should be allowed to remain until such time as the packing is removed. If this controls the hemorrhage, the other nostril will not need to be packed. If bleeding still continues, then the other nostril should be packed in the same manner, in which case the end of the cord may be tied across the end of the nose, avoiding the annoyance of having it stuck on the cheek. Where a formidable hemorrhage of this kind is met with, if close observation is made through the mouth, with good illumination, and bleeding is found to come down from one side, then the packing on that side should be sufficient; thus leaving one nostril open, which will make the patient much more comfortable. Packing in this way should be removed within forty-eight hours, generally much sooner, to avoid ear trouble. We should be on our guard at all times lest we unexpectedly encounter a case of hemophilia.

The question of recurrence of these growths, however, after being removed in

very young children, I will but briefly comment upon. It has been my experience with very young children, when operated upon for this trouble, and the operation has apparently been thoroughly done, that we sometimes have recurrence. This fact, however, should not prevent us from operating, even if it should be necessary for it to be repeated later. It is the predisposition on the part of the child to produce adenoid tissue, in most cases, rather than to defective operation, which makes subsequent operations necessary.

IN CONCLUSION: We must not lose sight of the fact that nasal breathing may be interfered with by one of several causes, or by a combination of causes. We have not done our whole duty to the patient when we have removed the cause, but must insist that the mouth-breathing habit be broken up. This can be done by closing one nostril and breathing forcibly through the other at frequent intervals; by deep breathing through the nostril, and by having the child run a short distance each day with the mouth closed. The distance should be increased from day to day, until the object for which it has been instituted has been accomplished. Above all, we should insist on the early removal of all obstruction before irreparable damage has been done.

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The Tennessee State Medical Association is not responsible for any statements or opinions of individuals published in this Journal.

RAILROAD RATES.

AFTER considerable correspondence and several conferences with the railroads interested, we are sorry to announce that we could not make satisfactory arrangements for a special railroad rate. Heretofore a rate of one and one-third fare was granted, provided there were present in attendance one hundred members who had paid their railroad fares, upon the

certificate plan, but the railroads of the Southeastern Passenger Association have raised the number from one hundred to two hundred who shall pay one fare one way before they will grant the certificate rates of one-and-one third fare. It has been a difficult matter for us to get the one hundred certificates heretofore, so it can be seen that we will have no opportunity this time to get rates.

CORRECTION.

WE herewith call especial attention to the following note from Dr. Savage, in explanation of an error which appeared in his paper in the last issue of the JOURNAL. We have made peace with the doctor and trust this will serve the purpose for which it is intended:

"NASHVILLE, TENN., March 24, 1911.

"DR. GEO. H. PRICE, *Nashville, Tenn.*

"DEAR EDITOR—Your type went all wrong in giving each of my two formulas; first, on page 299 of the March issue the formula should read

Atropia Sulphate, one grain; Morphia Sulphate, four grains; Acid Boracic, grains twenty; distilled water, one fluid ounce. Second, on page 300 of the same issue you have Syrup of Tulu q. s., two drams, when it was plainly written two ounces. The saving feature of this error, if an error can have a saving feature, is that four drams of sweet spirits of nitre had already been added to the mixture. Please let these corrections appear in good, bold type. Hereafter, to avoid such errors in the JOURNAL, I would suggest that you send galley proof to the author of every paper you publish.

"Yours fraternally, G. C. SAVAGE."

HEADQUARTERS.

THE place of meeting will be in the Assembly Room of the Hermitage Hotel, where the registration will also be carried on. The House of Delegates will meet in a room close by the Assembly Hall.

The Hermitage Hotel is centrally lo-

cated on the corner of Sixth Avenue and Union Street. The physicians of the city will entertain the members of the Association with a "smoker" in the Grill Room of the Hermitage Hotel on Wednesday night at 9.30 o'clock.

LEGISLATION.

AMONG the many bills presented to the Legislature the one given here below was presented, passed and is in the hands of the Governor for his approval. This Act is one of far-reaching importance, but for some unknown reason is being opposed. It would be well for those interested in this important measure to ask their Representatives and Senators to lend whatever influence they can to see it approved:

AN ACT

To provide for the protection of the eyesight of the newly born, and for certain requirements in regard thereto, and to punish the neglect or omission of such requirements.

SECTION 1. *Be it enacted by the General Assembly of the State of Tennessee*, That a person who, being a midwife, nurse or other person having the care of an infant within the age of two weeks, neglects or omits to report immediately to the health officer or to a legally qualified practitioner of medicine of the city, town or

place where such child is being cared for, the fact that one or both eyes of such infant are inflamed or reddened whenever such shall be the case, or who applies any remedy therefor without the advice, or except by the directions of such officer or physician, or neglects, refuses or omits to comply with the above requirements, shall be guilty of a misdemeanor.

SEC. 2. *Be it further enacted*, That this Act take effect from and after thirty days from its passage, the public welfare requiring it.

In addition to the above Act, quite a number of bills have been presented to the State Legislature or will be presented during this session. A circular giving a synopsis of these bills and requesting the support of the profession has been issued and sent to each member of the Association, urging the members to communicate with their Representatives and Senators to give these measures their support. We trust that those who have not, will not lose the opportunity to thus help these important public health measures.

REPORTS OF COUNTY SOCIETIES.

[Those names marked with an asterisk, thus *, are reported as unpaid at the time of going to press.]

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 Nell, Dr. D. R.,* Jackson Bldg., Nashville.
 Nichol, Dr. A. G., Jackson Bldg., Nashville.
 Noel, Dr. L. G.,* 527½ Church St., Nashville.
 O'Callahan, Dr. W. J., P. O. Nashville.
 Omohundron, Dr. O. C.,* Broad and 8th Ave., Nashville.
 Oughterson, Dr. W. A., 137 Carroll St., Nashville.
 Overton, Dr. John, Douglas Infirmary, 2d Ave., S., and Peabody, Nashville.

Ousley, Dr. O. W., 420½ Union St., Nashville.
 Padgett, Dr. Hazle, 139 8th Ave., N., Nashville.
 Parrish, Dr. W. A., Nashville.
 Pickens, Dr. D. R., 209 7th Ave., N., Nashville.
 Plunket, Dr. J. D., 701½ Church St., Nashville.
 Pollard, Dr. T. G., 135 8th Ave., N., Nashville.
 Price, Dr. Geo. H., 146 8th Ave., N., Nashville.
 Pritt, Dr. B. E., Jackson Bldg., Nashville.
 Roberts, Dr. Deering J., 208 6th Ave., N., Nashville.
 Roberts, Dr. E. L., 131 8th Ave., N., Nashville.
 Robertson, Dr. C. A., 151 8th Ave., N., Nashville.
 Sanders, Dr. E. M., 148 7th Ave., N., Nashville.
 Savage, Dr. G. C., 130 8th Ave., N., Nashville.
 Shannon, Dr. T. G.,* Woodland and 4th, Nashville.
 Sharber, Dr. A. L., 140 8th Ave., N., Nashville.
 Shapard, Dr. J. R.,* 501 Woodland St., Nashville.
 Shoulder, Dr. H. H., Nashville.
 Sifford, Dr. W. R., 1st National Bank Bldg., Nashville.
 Smith, Dr. Larkin, 131 8th Ave., N., Nashville.
 Sneed, Dr. W. L., Station B, Nashville.
 Stephens, Dr. John Bunyan,* 152 8th Ave., N., Nashville.
 Stevens, Dr. John W., R. F. D. No. 1, Nashville.
 Stonestreet, Dr. Reginald, Wilcox Bldg., Nashville.
 Sullivan, Dr. C. C., 131 8th Ave., N., Nashville.
 Sumpter, Dr. W. D., 131 8th Ave., N., Nashville.
 Tankersley, Dr. W. H.,* Waverly Place, Nashville.
 Teachout, Dr. S. R., 702 Church St., Nashville.
 Thatch, Dr. A. B., 146 7th Ave., N., Nashville.
 Tidwell, Dr. G. W., 131 8th Ave., N., Nashville.
 Tigert, Dr. H. M., Worthington Flats, Nashville.
 Toy, Dr. S. H., 1409 9th Ave., N., Nashville.
 Trawick, Dr. A. M., 210 6th Ave., N., Nashville.
 Tucker, Dr. B. G.,* 140 8th Ave., N., Nashville.
 Tucker, Dr. E. O.,* 140 8th Ave., N., Nashville.
 Weaver, Dr. Thomas, 131 8th Ave., N., Nashville.
 West, Dr. Olin, Worthington Flats, Nashville.
 White, Dr. Geo. R., 24 Iridge Ave., Nashville.
 White, Dr. Gordon, 610½ Church St., Nashville.
 Wilson, Dr. O. H., Worthington Flats, Nashville.
 Witherspoon, Dr. John A., 150 8th Ave., N., Nashville.
 Witt, Dr. W. H., Worthington Flats, Nashville.
 Wood, Dr. T. Hillard, 1st National Bank Bldg., Nashville.

DEKALB COUNTY.

Denby, Dr. J. M.,* Smithville.
 Fuson, Dr. J. B.,* Smithville.
 Loring, Dr. Chas.,* Smithville.
 Potter, Dr. Thos. J.,* Smithville.
 Parker, Dr. W. B.,* Smithville.
 Parker, Dr. W. W.,* Smithville.

DICKSON COUNTY.

Flowers, Dr. J. C.,* Dickson.
 Guerin, Dr. C. H.,* Dickson.
 Harper, Dr. T. M.,* Dickson.
 Lovell, Dr. C. M.,* Dickson.
 Scott, Dr. W. S.,* Dickson.
 Sugg, Dr. W. J.,* Dickson.
 Walker, Dr. W. W.,* Dickson.

DYERSBURG COUNTY.

Austin, Dr. D. T.,* Bogata.
 Brewer, Dr. J. D.,* Newbern.
 Burke, Dr. R. A.,* Dyersburg.
 Craig, Dr. J. R.,* Dyersburg.
 Cherry, Dr. E. O.,* Newbern.
 Cole, Dr. J. D.,* Newbern.
 Dees, Dr. H. E.,* Tiger Tail.
 Dulaney, Dr. O.,* Dyersburg.
 Edwards, Dr. Luther,* Finley.
 Ferguson, Dr. J. A.,* Dyersburg (moved to Nashville).
 Flanary, Dr. D. L.,* Dyersburg.
 Fowlkes, Dr. J. A.,* Dyersburg.
 Goodlett, Dr. E. B.,* Heloise.
 Green, Dr. J. H.,* Trimble.
 Haskins, Dr. E. T.,* Newbern.
 Hall, Dr. L. B.,* Newbern.
 Holland, Dr. W. W.,* Dyersburg.
 Hornbrook, Dr. T. J.,* Dyersburg.
 Huey, Dr. John,* Finley.
 McDavld, Dr. Paul,* Minglewood.
 Moody, Dr. A. H.,* Dyersburg.
 Murph, Dr. E. L.,* Dyersburg.
 Nash, Dr. C. T.,* Dyersburg.
 Price, Dr. J. G.,* Dyersburg.
 Rawles, Dr. E. L.,* Dyersburg.
 Rawles, Dr. I. N.,* Dyersburg.
 Richardson, Dr. J. D.,* Fowlkes.

Smith, Dr. J. H.,* Trimble.
 Smith, Dr. W. F.,* Dyersburg.
 Sullivan, Dr. W. O.,* Newbern.
 Turner, Dr. C. A.,* Dyersburg.
 Walker, Dr. N. S.,* Dyersburg.
 Walker, Dr. T. J.,* Dyersburg.
 Watson, Dr. W. P.,* Dyersburg.
 Williamson, Dr. W. E.,* Finley.
 Wynne, Dr. J. W.,* Newbern.

FAYETTE COUNTY.

Albright, Dr. J. A.,* Somerville.
 Battle, Dr. W. B.,* Galloway.
 Boals, Dr. A. O.,* Somerville.
 Brinkley, Dr. Geo. T.,* Fayette Corner.
 Cocke, Dr. Jas. H.,* Moscow.
 Crawford, Dr. John L.,* Williston.
 Crook, Dr. C. N.,* Rossville.
 McAulley, Dr. L. D.,* Oakland.
 Morrow, Dr. D. M.,* Oakland.
 Moorman, Dr. H. C.,* Somerville.
 Parkes, Dr. J. E.,* Somerville.
 Robertson, Dr. C. W.,* Somerville.
 Rust, Dr. M. E.,* Yum Yum.
 Yancey, Dr. T. B., Jr.,* Somerville.

GIBSON COUNTY.

Bennett, Dr. B. T., Trenton.
 Clopton, Dr. A. T., Milan.
 Caldwell, Dr. B. D., Milan.
 Dodds, Dr. G. W., Trenton.
 Faucett, Dr. J. T., Trenton.
 Hunt, Dr. R. H., Humboldt.
 Harwood, Dr. T. E., Trenton.
 McKee, Dr. W. C., Secretary, Trenton.
 Moore, Dr. J. C., Trenton.
 Medling, Dr. W. L., Dyer.
 Matthews, Dr. E. C., Trenton.
 Paris, Dr. Jno. C., Kenton.
 Penn, Dr. B. S., President, Humboldt.
 Penn, Dr. G. W., Humboldt.
 Preston, Dr. J. H., Humboldt.
 Preston, Dr. W. F., Humboldt.
 Oliver, Dr. G. W., Medina.
 Rozelle, Dr. J. H., Gibson.
 Thompson, Dr. Sidney, Humboldt.
 Tyre, Dr. C. E., Trenton.
 Walker, Dr. D. A., Trenton.
 Wyatt, Dr. F. E., Yorkville.

GILES COUNTY.

Abernathy, Dr. C. A., Pulaski.
 Abernathy, Dr. W. D., Pulaski.
 Abernathy, Dr. Shields, Secretary, Pulaski.
 Allen, Dr. A. M., Buford Station.
 Baugh, Dr. Jno. E., Elkton.
 Black, Dr. Wm. E., Minor Hill.
 Blackburn, Dr. Jas. K., Pulaski.
 Butler, Dr. Geo. D., Pulaski.
 Cole, Dr. Wm. H., Minor Hill.
 Copeland, Dr. W. F., Campbellsville.
 Dean, Dr. Allen W., Brick Church.
 Freeman, Dr. E. C., Pulaski.
 Grimes, Dr. G. C., Bodenham.
 Harris, Dr. Jno. S., Minor Hill.
 Herbert, Dr. Robt. N., Aspen Hill.
 Kelsey, Dr. Jasper,* Lynnville.
 Lancaster, Dr. A. J., Pisgah.
 Lancaster, Dr. Geo. W., Pisgah.
 LaRue, Dr. Jas. A., Pulaski.
 May, Dr. J. P., President, Aspen Hill.
 Marris, Dr. John H., Jr., Bodenham.
 Neal, Dr. J. H., Wales Station.
 Sumpter, Dr. E. R., Pulaski.
 Whitford, Dr. Thomas, Veto. Ala.
 Woodard, Dr. B. H., Elkton.

GRAINGER COUNTY.

Acuff, Dr. P. H., Secretary, Washburn.
 Akers, Dr. R. M., Nero, Ky.
 Atkins, Dr. C. A., Powder Springs.
 Campbell, Dr. J. H., Rutledge.
 Idol, Dr. E. T., Washburn.
 Idol, Dr. Willis, Leas Springs.
 LeQuire, Dr. G. D., Rutledge.
 Livingston, Dr. G. W., Neoton.
 Neergaard, Dr. E. A., Rutledge.
 Pierce, Dr. J. W., President, Tate Springs.
 Wallace, Dr. R. M., Rutledge.

GREENE COUNTY.

Bailey, Dr. G. N., Baileytown.
 Bell, Dr. Jas. B., President, Greeneville, R. F. D. No. 2.
 Blanton, Dr. M. A., Secretary, Baileytown, R. F. D. No. 1.
 Borden, Dr. H. S., Greeneville, R. F. D. No. 2.
 Britton, Dr. F. C., Greeneville, R. F. D. No. 9.
 Brown, Dr. I. B., Mosheim, R. F. D.
 Brumley, Dr. S. T., Greeneville, R. F. D.
 Cloyd, Dr. J. W., Mosheim.
 Fox, Dr. C. P., Greeneville.
 Hawkins, Dr. W. H., Greeneville.
 Hays, Dr. G. S., Greeneville.
 Hoyt, Dr. J. S., Midway.
 Huffaker, Dr. R. O., Chucky City.
 Jeffers, Dr. W. L., Baileytown.
 Myers, Dr. E. M., Bulls Gap.
 Robinson, Dr. F. P., Greeneville, R. F. D.
 Ruble, Dr. H. H., Greeneville.
 Simpson, Dr. H. A., Afton, R. F. D.
 Taylor, Dr. H. M., Greeneville.
 Taylor, Dr. Wm. B., Greeneville.
 Wilholt, Dr. J. S. J., Afton, R. F. D.
 Woodyard, Dr. S. W., Greeneville.
 Woolsey, Dr. Thos. H., Greeneville, R. F. D.

HAMBLEN COUNTY.

Bales, Dr. Thos. E., Morristown.
 Brown, Dr. J. H., Talbots.
 Campbell, Dr. J. F.,* Morristown.
 Cass, Dr. H. M., Morristown.
 Dice, Dr. J. B. F., Morristown.
 Henderson, Dr. P. L., Morristown.
 Howell, Dr. W. E., Morristown.
 Manard, Dr. J. J., Morristown.
 Manker, Dr. R. A., Whitesburg.
 Milligan, Dr. L. H., Morristown.
 Palmer, Dr. E. F., Morristown.
 Pangle, Dr. H. G., Russellville.
 Ruble, Dr. W. G., Morristown.
 Shields, Dr. D. E., Morristown.
 Walker, Dr. I. D., Alpha.
 Woods, Dr. J. O., Morristown.

HAMILTON COUNTY.

Abernathy, Dr. T. E.,* Bates Block, Chattanooga.
 Abernathy, Dr. Y. L., Hill City.
 Anderson, Dr. Edwin Brown, over 739 Market St., Chattanooga.
 Anderson, Dr. Edwin C., Highland Park Sta., R. F. D., Chattanooga.
 Anderson, Dr. Wm. E.,* James Bldg., Chattanooga.
 Applegate, Dr. W. A., 1300 Pa. Ave., Washington, D. C.
 Atlee, Dr. Jas. H.,* President, 210 Oak St., Chattanooga.
 Bailey, Dr. J. W.,* Rossville, Ga.
 Banks, Dr. W. A., 313 Chamberlain Ave., Chattanooga.
 Barker, Dr. H. M., Altonpark, Tenn.
 Barrett, Dr. S. H.,* Nashville, Tenn.
 Bell, Dr. J. T., Daisy.
 Bell, Dr. R. P.,* Atlanta, Ga.
 Berlin, Dr. H., 110 McCallie Ave., Chattanooga.
 Blackwell, Dr. O. L., Worley.
 Bogart, Dr. W. G., 518 Georgia Ave., Chattanooga.
 Bogart, Dr. W. M., Hill City.
 Boyd, Dr. A. W.,* Loveman Bldg., Chattanooga.
 Brooks, Dr. J. C., 5 E. Ninth St., Chattanooga.
 Broyles, Dr. J. N.,* East Lake.
 Byrd, Dr. E. H., East Chattanooga.
 Calhoun, Dr. John D., Ringgold, Ga.
 Cheney, Dr. W. H.,* 13½ E. Eighth St., Chattanooga.
 Cleary, Dr. A. Douglas, 602 Georgia Ave., Chattanooga.
 Clift, Dr. J. W.,* Soddy.
 Cobleigh, Dr. C. A.,* Loveman Bldg., Chattanooga.
 Colmore, Dr. R. M.,* 826 Market St., Chattanooga.
 Cunningham, Dr. J. C., Hixon.
 Davis, Dr. K. D., Wiehl Bldg., Chattanooga.
 Deakins, Dr. B. A.,* East Chattanooga.
 Dietrich, Dr. W. A.,* Miller Bldg., Chattanooga.
 Duncan, Dr. W. A.,* El Paso, Texas.
 Dye, Dr. J. S.,* 5 E. Eighth St., Chattanooga.
 Ehlen, Dr. T. N., Tyner.
 Ellis, Dr. Chas. C.,* Central Block, Chattanooga.
 Ellis, G. Manning,* 211 E. Eighth St., Chattanooga.
 Fancher, Dr. H. L., James Bldg., Chattanooga.
 Fowler, Dr. S. A., 1100 Whiteside St., Chattanooga.
 Gee, Dr. J. J.,* Loveman Bldg., Chattanooga.
 Gentry, Dr. John Allen, Times Bldg., Chattanooga.
 Gibbs, Dr. Vaulx, 831½ Market St., Chattanooga.
 Gillespie, Dr. S. R.,* 211 E. Eighth St., Chattanooga.
 Goodwin, Dr. J. Lee, 211 E. Eighth St., Chattanooga.
 Gould, Dr. E. P.,* 1472½ Market St., Chattanooga.

Graham, Dr. Chas. Gertrude,* over 716 Market St., Chattanooga.

Green, Dr. Jas. E., 276½ E. Main St., Chattanooga.

Gurney, Dr. Chas. H.,* Rossville, Ga.

Hale, Dr. B. C., Guild.

Haymore, Dr. German P.,* 826 Market St., Chattanooga.

Hayward, Dr. O. M.,* 16 McCalle Ave., Chattanooga.

Hilliard, Dr. A. W.,* 826 Market St., Chattanooga.

Hogshead, Dr. J. McChesney, 602 Georgia Ave., Chattanooga.

Holtzclaw, Dr. C., 213 E. Eighth St., Chattanooga.

Hope, Dr. W. T., 101½ E. Eighth St., Chattanooga.

Horton, Dr. J. Webster, James Bldg., Chattanooga.

Hughes, Dr. O. G.,* Ooltewah.

James, Dr. T. L.,* Orme.

Jenkins, Dr. Edw. T.,* Soddy.

Johnson, Dr. Jos. W.,* James Bldg., Chattanooga.

Johnston, Dr. Ebb. C.,* 213 E. Eighth St., Chattanooga.

Kerr, Dr. E. E.,* over 716 Market St., Chattanooga.

Larlmore, Dr. H. P., Secretary, Bates Block, Chattanooga.

Lee, Dr. Reuben N.,* 1101 Whiteside St., Chattanooga.

Lindsay, Dr. W. E.,* Gastonia, N. C.

Macquillan, Dr. J. W.,* over 600 Market St., Chattanooga.

McGhee, Dr. J. B., 222½ E. Main St., Chattanooga.

McManus, Dr. W. F.,* 826 Market St., Chattanooga.

McWhorter, Dr. L. B.,* 711½ Market St., Chattanooga.

Meacham, Dr. M. A., Loveman Bldg., Chattanooga.

Minter, Dr. N. J.,* 1463 Market St., Chattanooga.

Morris, Dr. Dowling C., cor. Main and Market Sts., Chattanooga.

Nefe, Dr. A. A., Lookout Mountain.

Newell, Dr. E. Dunbar, 707 Georgia Ave., Chattanooga.

Newell, Dr. Edw. T., 707 Georgia Ave., Chattanooga.

Null, Dr. Harry O.,* Ridgedale.

Partridge, Dr. Jas., Loveman Bldg., Chattanooga.

Rathmell, Dr. J. R.,* 5 E. Ninth St., Chattanooga.

Reisman, Dr. E. E.,* 5 E. Eighth St., Chattanooga.

Richard, Dr. J. McClure,* Sale Creek.

Richardson, Dr. Robt. M., 716 Fairview Ave., Chattanooga.

Ritchie, Dr. N. S.,* Daisy.

Selden, Dr. J. M., 5 E. Eighth St., Chattanooga.

Shoff, Dr. J. S.,* 1015 E. Eleventh St., Chattanooga.

Smith, Dr. Frank Trester,* 826 Market St., Chattanooga.

Smith, Dr. H. G.,* Willard Parker Hospital, New York.

Stapp, Dr. Fred B., 9½ E. Eighth St., Chattanooga.

Steele, Dr. Jno. B.,* James Bldg., Chattanooga.

Steele, Dr. N. C., Loveman Bldg., Chattanooga.

Stem, Dr. L. T.,* East Lake.

Sutton, Dr. J. Q.,* over 716 Market St., Chattanooga.

Tatum, Dr. Robt. H., 826 Market St., Chattanooga.

Taylor, Dr. J. Hamilton, 707 Market St., Chattanooga.

Taylor, Dr. R. N.,* Alamogordo, New Mexico.

Travis, Dr. B. F.,* James Bldg., Chattanooga.

Wagner, Dr. M. M.,* Guild.

Wallace, Dr. Raymond,* The Elizabeth, Chattanooga.

Wert, Dr. E. S., 5 E. Eighth St., Chattanooga.

West, Dr. Geo. R., 10 W. Eighth St., Chattanooga.

Williams, Dr. G. Victor,* 222½ E. Main St., Chattanooga.

Williamson, Dr. L. C., East Lake.

Wilson, Dr. H. B.,* James Bldg., Chattanooga.

Wise, Dr. E. B.,* over 739 Market St., Chattanooga.

Wood, Dr. Frank L.,* 222½ E. Main St., Chattanooga.

Woodford, Dr. J. S. B., The Highlands, Chattanooga.

Woolner, Dr. A. B., 223 E. Eighth St., Chattanooga.

Wunschow, Dr. O. B.,* 711½ Market St., Chattanooga.

Wylie, Dr. C. B.,* Bates Block, Chattanooga.

Yarnell, Dr. S. I., Loveman Bldg., Chattanooga.

Zelgler, Dr. T. J.,* East Chattanooga.

HARDEMAN COUNTY.

Clifton, Dr. Joe, Hickory Valley.

Curry, Dr. G. B., Toone.

Cocke, Dr. W. S., Bolivar.

Dorris, Dr. H. E., Bolivar.

Goddard, Dr. W. L., Saulsberry.

Millstead, Dr. H. W., Bolivar.

Neely, Dr. J. J., Bolivar.

Sassar, Dr. J. D., Sr., President, Middleton.

Tate, Dr. Robt. W., Secretary, Bolivar.

HAYWOOD COUNTY.

Allen, Dr. Jno. T., Brownsville.

Cooper, Dr. Thos. W., Brownsville.

Dickson, Dr. A. C., Brownsville, R. F. D.

Edwards, Dr. Jos. L., Secretary, Brownsville.

Heard, Dr. F. C., Brownsville, R. F. D.

Norbelle, Dr. J. C., Brownsville.

Patton, Dr. J. S., President, Brownsville.

Sorrell, Dr. A. H., Brownsville.

Sevler, Dr. A. H., Brownsville.

Summers, Dr. William, Brownsville, R. F. D.

Wilkerson, Dr. J. B., Stanton.

Warren, Dr. J. W., Forked Deer.

HENDERSON COUNTY.

Arnold, Dr. J. M., Lexington.

Davidson, Dr. R. H., Lexington.

England, Dr. J. H., Luray.

Howell, Dr. W. I., Wildersville.

Huntsman, Dr. W. F., Lexington.

Johnston, Dr. C. H., Secretary, Lexington.

Keeton, Dr. W. B., Scotts Hill.

Parker, Dr. S. T., Lexington.

Stinson, Dr. J. C., Center Point.

Waller, Dr. A. L., Juno.

Watson, Dr. W. T., Lexington.

Wyley, Dr. J. C., Scotts Hill.

HENRY COUNTY.

Abernathy, Dr. G. T.,* Paris.

Grainger, Dr. R. A.,* Paris.

McSwain, Dr. J. H.,* Paris.

McSwain, Dr. O. A.,* Paris.

Paschal, Dr. A. F.,* Crossland, Ky.

Perry, Dr. R. J.,* Springville.

Rodgers, Dr. C. W.,* Como.

Travis, Dr. E. A.,* Como.

HICKMAN COUNTY.

Batton, Dr. J. A., Coble.

Beasley, Dr. Jno. S., Centreville.

Beasley, Dr. R. P., Secretary, Centreville.

Cage, Dr. W. D., Coble.

Cooper, Dr. J. D., Sunrise.

Flowers, Dr. D. W., Little Lot.

Stephenson, Dr. C. V., Centreville.

Sutton, Dr. K. I.,* President, Centreville.

Webb, Dr. J. B., Goodrich.

HUMPHREYS COUNTY.

Binkley, Dr. D. C. K., Hustburg.

Cooley, Dr. J. T., Waverly.

Coke, Dr. F. H., Hustburg.

Daniel, Dr. W. H., Secretary, McEwen.

Gould, Dr. H. F., President, Hustburg.

Horner, W. B., Plant.

Slayden, Dr. W. W., Waverly.

Smith, Dr. J. N., Cuba Landing.

Sugg, Dr. J. A., McEwen.

Teas, Dr. J. J., Waverly.

JACKSON COUNTY.

Hix, Dr. J. B., Flynn's Lick.

Loftis, Dr. H. P., President, Gainesboro.

Mabry, Dr. E. W., Secretary, Gainesboro.

Quarles, Dr. J. D., Whiteville.

Reeves, Dr. C. E., Gainesboro.

JEFFERSON COUNTY.

Anderson, Dr. J. C., President, Dandridge.

Brown, Dr. B. F.,* Jefferson City.

Cline, Dr. P. L.,* White Pine.

Cline, Dr. B. E., Strawberry Plains.

Caldwell, Dr. J. M., Jefferson City.

Cooper, Dr. W. S., White Pine.

Doan, Dr. N. T.,* New Market.

Dukes, Dr. N. M., Strawberry Plains.

Ferguson, Dr. M. W.,* New Market.

French, Dr. T. R., Dandridge.

Huggins, Dr. J. I., Secretary, Dandridge.

King, Dr. W. F., Jefferson City.

Roberts, Dr. W. E., Talbotts.

Tadlock, Dr. W. L., Talbotts.

Tinsley, Dr. P. A., Dandridge.

Titworth, Dr. B. M., Jefferson City.

Tar, Dr. H. L., Jefferson City.

Taylor, Dr. Wm. H.,* New Market.

Wagner, Dr. P. L., New Market.

Walker, Dr. Jas. H., White Pine.

KNOX COUNTY.

Acuff, Dr. S. D., 1314 N. Central Ave., Knoxville.
 Alexander, Dr. Eben, The Oxford, Knoxville.
 Armstrong, Dr. W. H.,* Rogersville.
 Atchley, Dr. W. P., Empire Bldg., Knoxville.
 Austin, Dr. W. S., 423 Church Ave., W., Knoxville.
 Blankenship, Dr. J. P., Maryville.
 Booker, Dr. G. W., W. Church Ave., Knoxville.
 Bosworth, Dr. B. D., W. Church Ave., Knoxville.
 Bowen, Dr. Wm., Broad and Central, Knoxville.
 Boyd, Dr. S. B., Prince and Cumberland, Knoxville.
 Bull, Dr. C. G., Medical College, Knoxville.
 Campbell, Dr. Michael,* Lyonsvlew, Knoxville.
 Capps, Dr. C. M.,* Deaderick Bldg., Knoxville.
 Carmichael, Dr. C. J., Walnut St., Knoxville.
 Carmichael, Dr. J. W., Walnut St., Knoxville.
 Casenbury, Dr. S. F., McTannen Bldg., Knoxville.
 Cates, Dr. B. B., 508 W. Clinch Ave., Knoxville.
 Christenbury, Dr. H. E., Lonsdale.
 Cochran, Dr. W. R.,* 721 Walnut St., Knoxville.
 Copenhaver, Dr. M. M., Lonsdale.
 Cullman, Dr. John, Jr., W. Church Ave., Knoxville.
 Dall, Dr. C. V.,* Arnstein Bldg., Knoxville.
 Davis, Dr. Chas. Huff, Empire Bldg., Knoxville.
 Deaderick, Dr. Chalmers, 501 W. Church Ave., Knoxville.
 DeArmond, Dr. C. C.,* Empire Bldg., Knoxville.
 Delpuech, Dr. Wm.,* 434 Atkin St., Knoxville.
 Depree, Dr. R. V., Medical College, Knoxville.
 Drake, Dr. C. M.,* 410 W. Church Ave., Knoxville.
 Fitzgerald, Dr. T. F., R. F. D. No. 1, Knoxville.
 Garrison, Dr. A. R., Byington.
 Goetz, H. E.,* Deaderick Bldg., Knoxville.
 Greer, Dr. W. A., Ledgewick Bldg., Knoxville.
 Guynes, Dr. E. A.,* Lonsdale.
 Hall, Dr. G. M.,* McTownlee Bldg., Knoxville.
 Hill, Dr. O. W., Cherokee Bldg., Knoxville.
 Hodge, Dr. S. H.,* Walnut St., Knoxville.
 Holloway, Dr. V. D., 609 Walnut St., Knoxville.
 Hudson, Dr. G. C.,* Wall and Gay, Knoxville.
 Ijams, Dr. H. A.,* McTownlee Bldg., Knoxville.
 Jones, Dr. C. B., Cherokee Bldg., Knoxville.
 Jones, Dr. E. L.,* Ledgewick Bldg., Knoxville.
 Jones, Dr. T. Ap. R., Walnut St., Knoxville.
 Kabler, Dr. W. F., Bristol.
 Keen, Dr. A. G., 607 Walnut St., Knoxville.
 Kelso, Dr. H. J.,* 425 W. Church Ave., Knoxville.
 Kennedy, Dr. J. M., N. Central, Knoxville.
 Kincaid, Dr. J. H.,* 421 W. Church Ave., Knoxville.
 Kyle, Dr. A. G.,* Deaderick Bldg., Knoxville.
 Layman, Dr. R. B.,* Church and State Sts., Knoxville.
 Lockett, Dr. W. R.,* New Mexico.
 Lones, Dr. C. E., 504 Asylum, Knoxville.
 Luttrell, Dr. Walter, McTownlee Bldg., Knoxville.
 Lynn, W. N., L. M. Hospital, Knoxville.
 Massey, Dr. J. F.,* Empire Bldg., Knoxville.
 McCampbell, Dr. H. H., 614 Walnut St., Knoxville.
 McCown, Dr. R. M., W. Church Ave., Knoxville.
 McNabb, Dr. C. P., 904 S. Gay St., Knoxville.
 Miller, Dr. J. E., Rogersville.
 Miller, Dr. S. A., 406 W. Church Ave., Knoxville.
 Miller, Dr. S. M., 209 W. Church Ave., Knoxville.
 Mooney, Dr. C. F.,* 705 Prince St., Knoxville.
 Nash, Dr. W. S.,* 611 Walnut St., Knoxville.
 Newman, Dr. A. H., 406 W. Church Ave., Knoxville.
 Ogle, Dr. W. S.,* Empire Bldg., Knoxville.
 Oppenheimer, Dr. R. P.,* 417 W. Church Ave., Knoxville.
 Peck, Dr. A. B.,* Knoxville.
 Rain, Dr. C. W.,* Empire Bldg., Knoxville.
 Richmond, Dr. W. D., Empire Bldg., Knoxville.
 Ristine, Dr. C. E., McNutt Bldg., Knoxville.
 Rogers, Dr. K. E., Cherokee Bldg., Knoxville.
 Rogers, Dr. J. W., Bank.
 Rule, Dr. A. L., W. Church Ave., Knoxville.
 Sheddin, Dr. L. L., Secretary, 419 W. Church Ave., Knoxville.
 Sherman, Dr. J. N.,* Broad and Central, Knoxville.
 Sisk, Dr. J. A., Empire Bldg., Knoxville.
 St. John, Dr. Geo. F.,* Petros.
 Swaney, Dr. O. M., Treadway.
 Tillery, Dr. J. P., 419 W. Church Ave., Knoxville.
 Tillery, Dr. R. M.,* Empire Bldg., Knoxville.
 Vance, Dr. W. K., Bristol.
 Wallace, Dr. W. L., N. Broadway, Knoxville.
 West, Dr. J. Q. A., Arnstein Bldg., Knoxville.
 West, Dr. W. J., Empire Bldg., Knoxville.
 White, Dr. W. H. L., Young Bldg., Knoxville.
 Wilder, Dora Lee, R. F. D. No. 1, Knoxville.
 Williams, Dr. D. H., 613 Walnut St., Knoxville.
 Young, Dr. B. F., Young Bldg., Knoxville.
 Zemp, Dr. E. R., 617 Walnut St., Knoxville.

LAKE COUNTY.

Alexander, Dr. J. D.,* Tiptonville.
 Alexander, Dr. W. S.,* Ridgely.
 Griffin, Dr. J. F.,* Tiptonville.
 Griffin, Dr. R. W.,* Tiptonville.
 Griffin, Dr. R. B.,* Ridgely.
 Hellen, Dr. R. E.,* Ridgely.
 Hutchinson, Dr. J. L.,* Dublin.
 Keltz, Dr. E. T.,* Cronansville.
 Smith, Dr. A. P.,* Ridgely.
 Wright, Dr. J. M.,* Tiptonville.

LAUDERDALE COUNTY.

Bradford, Dr. J. R.,* Curve.
 Chapman, Dr. S. T.,* Halls.
 Conyers, Dr. J. R.,* Gates.
 Ferguson, Dr. L. F.,* Gates.
 Glenn, Dr. S. M.,* Ripley.
 Hall, Dr. Wm.,* Halls.
 Hillsman, Dr.,* Henning.
 Lackey, Dr. J. B.,* Ripley.
 Lackey, Dr. J. H.,* Ripley.
 Lackey, Dr. W. K.,* Ripley.
 Lewis, Dr. J. R.,* Ripley.
 Lusk, Dr. G. A.,* Ripley.
 Massingill, Dr. A. P.,* Halls.
 Millen, Dr. W. P.,* Halls.
 Miller, Dr. W. D.,* Ripley.
 Mulherron, Dr. E. R.,* Ripley.
 Mulherron, Dr. G. G.,* Ripley.
 Musgraves, Dr. G. W.,* Henning.
 Osteen, Dr. J. R.,* Ashport.
 Page, Dr. A. F.,* Halls.
 Porter, Dr. J. A.,* Ripley.
 Sanford, Dr. B. R.,* Glymp.
 Sanford, Dr. H. W.,* Henning.
 Sanford, Dr. J. W.,* Ripley.
 Sanford, Dr. W. C.,* Henning.
 Scott, Dr. G. T.,* Curve.
 Sharp, Dr. S. B.,* Glymp.
 Summers, Dr. W. L.,* Ripley.
 Taylor, Dr. A. J.,* Halls.
 Tucker, Dr. W. H., Jr.,* Halls.
 Walker, Dr. C. B.,* Ripley.

LINCOLN COUNTY.

Anderson, Dr. J. M., Fayetteville.
 Ashley, Dr. T. E., Fayetteville, R. F. D. No. 1.
 Blair, Dr. E. K., Fayetteville.
 Brock, Dr. B. B., Blanche.
 Cannon, Dr. W. F., Fayetteville, R. F. D. No. 5.
 Carroll, Dr. J. D.,* Fayetteville.
 Cullum, Dr. J. M., Fayetteville.
 Farrar, Dr. J. P., Fayetteville, R. F. D. No. 8.
 Forbes, Dr. E. C., Howell.
 Gilliam, Dr. L. H., Kelso.
 Goodner, Dr. D. M.,* Fayetteville.
 Goodrich, Dr. C. L., Fayetteville.
 Graham, Dr. J. T., Fayetteville, R. F. D. No. 1.
 Hardin, Dr. D. T.,* Blanche.
 Holland, Dr. E. F., Fayetteville, R. F. D. No. 1.
 Jean, Dr. B. L.,* Coldwater, R. F. D. No. 1.
 Joplin, Dr. W. S., Petersburg.
 McRady, Dr. S. F., Petersburg.
 McWilliams, Dr. J. M., Fayetteville.
 Noblett, Dr. B. E., President, Fayetteville.
 Patrick, Dr. T. A., Secretary, Fayetteville.
 Shelton, Dr. J. M., Kelso, R. F. D. No. 1.
 Sloan, Dr. J. E., Harms, R. F. D. No. 1.
 Summers, Dr. W. P., Harms, R. F. D. No. 1.
 Wyatt, Dr. J. M., Fayetteville.
 Yearwood, Dr. A. L., Fayetteville.

LOUDON COUNTY.

Burditt, Dr. G. M., Lenoir City.
 Eblin, Dr. J. G., Lenoir City.
 Fout, Dr. W. T., Lenoir City.
 Harrison, Dr. J. J., Loudon.
 Hickman, Dr. T. J., Secretary, Lenoir City.
 Leiper, Dr. J. T., President, Lenoir City.
 Pagett, Dr. W. D., Lenoir City.

MACON COUNTY.

Blankenship, Dr. F. M.,* Hillsdale.
 Carman, Dr. J. T.,* Lafayette.
 East, Dr. Pattle,* Lafayette.
 Freeman, Dr. J. Y.,* Lafayette.
 Hesson, Dr. H. C.,* Red Boiling Springs.
 Houser, Dr. D. D.,* Lafayette.
 Lamb, Dr. E. K.,* Lafayette.
 Parker, Dr. Robt. T.,* Lafayette.

MADISON COUNTY.

Arnold, Dr. John M.* Jackson.
 Barbee, Dr. John T.* Jackson.
 Blackmore, Dr. John A.* Jackson.
 Cartmell, Dr. J. H.* Jackson.
 Crook, Dr. J. A.* Jackson.
 Crook, Dr. Jere L.* Jackson.
 Dancy, Dr. A. B.* Jackson.
 Drake, Dr. C. C.* Jackson.
 Duckworth, Dr. W. C.* Jackson.
 Greer, Dr. R. L.* Norwood.
 Gresham, Dr. J. W.* Jackson.
 Hamilton, Dr. T. B. Jr.* Jackson.
 Hawkins, Dr. Herman.* Jackson.
 Henderson, Dr. S. A.* Jackson.
 Herron, Dr. J. T.* Jackson.
 Hopper, Dr. J. D.* Jackson.
 Hudson, Dr. D. A.* Melesus.
 Jones, Dr. H. L.* Jackson.
 Jones, Dr. J. T.* Jackson.
 Lacy, Dr. Geo.* Medon.
 Lockman, Dr. W. L.* Medon.
 Lusk, Dr. P. B.* Jackson.
 McCoy, Dr. Ambrose.* Jackson.
 McNeill, Dr. A. K.* Jackson.
 Nelson, Dr. R. B.* Memphis.
 Raines, Dr. J. T., Sr.* Melesus.
 Raines, Dr. J. T., Jr.* Melesus.
 Rochelle, Dr. W. F.* Jackson.
 Sanders, Dr. W. G.* Jackson.
 Siler, Dr. M. J.* Uptonville.
 Troutt, Dr. J. M.* Jackson.
 Williamson, Dr. G. L.* Jackson.
 Webb, Dr. L. L.* Carroll.

MARSHALL COUNTY.

Baxter, Dr. R. G.* Carey Springs.
 Crunk, Dr. J. C.* Luna.
 Dryden, Dr. D. M.* Petersburg.
 Gault, Dr. F. H.* Cornersville.
 Jones, Dr. Alf.* Cornersville.
 Hardison, Dr. C. C.* Lewisburg.
 Hardison, Dr. J. A.* Lewisburg.
 Hardison, Dr. S. T.* Lewisburg.
 Logan, Dr. T. R.* Lewisburg.
 Moffitt, Dr. S. A.* Mooresville.
 Ransom, Dr. W. C.* Farmington.
 Reed, Dr. T. E.* Lewisburg.
 Vaden, Dr. W. E.* Rich Creek.
 White, Dr. Buford.* Lewisburg.
 White, Dr. Garreth.* Chapel Hill.
 Womack, Dr. C. W.* Lewisburg.

MAURY COUNTY.

Anderson, Dr. H. O.* Williamsport.
 Beasley, Dr. M. A.* Hampshire.
 Biddle, Dr. P. D.* Columbia.
 Brown, Dr. T. B.* Columbia.
 Rundrant, Dr. W. C.* St. Joseph.
 Church, Dr. R. M.* Williamsport.
 Clark, Dr. C. Y.* Mt. Pleasant.
 Collins, Dr. E. E.* Columbia.
 Cook, Dr. M. M.* Secretary, Santa Fe.
 Edwards, Dr. J. A.* Columbia.
 Faucett, Dr. P. H.* Columbia.
 Forgey, Dr. C. A.* Columbia.
 Hardin, Dr. Jas. O. (Vet.). Spring Hill.
 Hardison, Dr. T. J.* Carters Creek.
 Harrison, Dr. W. B. (Vet.). Columbia.
 Haywood, Dr. J. L.* Carters Creek.
 Horsley, Dr. A. S.* Columbia.
 Jones, Dr. Jas. H.* Columbia.
 Kittrell, Dr. W. H.* Mt. Pleasant.
 Perry, Dr. R. S.* Columbia.
 Pillow, Dr. Robert.* Columbia.
 Porter, Dr. O. J.* Columbia.
 Ragsdale, Dr. L. E.* Williamsport.
 Thomas, Dr. H. E.* President, Columbia.
 Timmons, Dr. E. A.* Columbia.
 Webb, Dr. W. R.* Hampshire.
 Wilkes, Dr. J. H. (Vet.). Columbia.
 Williamson, Dr. J. G., Jr.* Columbia.
 Williamson, Dr. J. G., Sr.* Columbia.

McMINN COUNTY.

Basinger, Dr. Jno. L.* Riceville.
 Brendle, Dr. D. P.* Englewood.
 Buttrau, Dr. W. H.* Nolita.
 Center, Dr. H. E.* Etowah.
 Copenhaver, Dr. L. A.* Englewood.
 Creech, Dr. Richard.* Englewood.

Foree, Dr. J. O., Athens.
 Fronybarger, Dr. W. R., Pendergast (Polk Co.).
 Kittrell, Dr. S. S.* Englewood.
 Moore, Dr. W. S.* Secretary, Athens.
 Nankivell, Dr. Jas. R.* President, Athens.
 Nichols, Dr. Jno. O.* Etowah.
 Proudfoot, Dr. Jas. L.* Athens.
 Shipley, Dr. Gus.* Athens.
 Staunton, Dr. G. W.* Athens.
 Taylor, Dr. Henry F.* Calhoun.
 Vinsant, Dr. Chas. C.* Etowah.

McNAIRY COUNTY.

Bell, Dr. W. T., Selmer.
 Boatman, Dr. J. A., Bethel Springs, R. R. No. 1.
 Dodds, Dr. B. C., Secretary, Gravelhill.
 Hodges, Dr. W. H., Finger.
 Key, Dr. M. C., Ramer.
 King, Dr. J. M., Ramer.
 Sanders, Dr. E. G., Stantonville.
 Sanders, Dr. H. C., President, Selmer, R. R. No. 1.
 Smith, Dr. J. L., Selmer.
 Smith, Dr. J. R., Selmer.
 Wallace, Dr. W. W., Selmer.

MONROE COUNTY.

Bagwell, Dr. B. W., Madisonville.
 Barnes, Dr. L. L.* Vonore.
 Brock, Dr. R. H., Sweetwater.
 Davis, Dr. J. E., Secretary, Sweetwater.
 Hardin, Dr. J. H., Sweetwater.
 Kimbrough, Dr. R. C.* Belletown.
 McClain, Dr. W. A., Sweetwater.
 McCollum, Dr. J. A., Tarliffville.
 Nichols, Dr. J. O.* Etowah.
 Penland, Dr. S. N., Madisonville.
 Roberts, Dr. T. M., President, Sweetwater.
 Shearer, Dr. H. C., Madisonville.

MONTGOMERY COUNTY.

Brandau, Dr. Jno. W., Clarksville.
 Ezell, Dr. J. J., Clarksville.
 Hughes, Dr. M. L., Clarksville.
 Hunt, Dr. I. E., New Providence.
 Macon, Dr. R. B., Clarksville.
 Marable, Dr. T. H., Clarksville.
 Morrison, Dr. J. C., Clarksville.
 McFall, Dr. R. J., Cumberland City.
 Neblett, Dr. L. L., Stayton.
 Neblett, Dr. S. E., Southside.
 Nesbitt, Dr. H. A., Cunningham.
 Runyon, Dr. F. J., President, Clarksville.
 Slayden, Dr. J. D., Clarksville.
 Vaughan, Dr. G. E., Clarksville.
 Webb, Dr. L. E., St. Bethlehem.
 Webb, Dr. Roy, Secretary, St. Bethlehem.

MORGAN COUNTY.

Cooper, Dr. John L.* Oakdale.
 Gallion, Dr. W. E.* Oakdale.
 Jones, Dr. S. H.* Sunbright.
 Mayers, Dr. George.* Wartburg.
 Todd, Dr. G. N.* Wartburg.
 Vigle, Dr. John B.* Oakdale.
 Wilsie, Dr. A. S.* Lancing.

OBION COUNTY.

Blanton, Dr. M. A., Union City.
 Butler, Dr. H. T.* Union City.
 Callicutt, Dr. T. I.* Rhes.
 Capps, Dr. J. M., Kenton.
 Chandler, Dr. S. E., Minnick.
 Darnall, Dr. J. F., President, Oblon.
 Glover, Dr. H.* Troy.
 Havner, Dr. J. B.* Troy.
 Howard, Dr. J. A.* McConnell.
 Jernigan, Dr. V. J., Oblon.
 Maddox, Dr. D. C., Terrell.
 Marshall, Dr. C. C.* Hornbeak.
 Marshall, Dr. T. E., Union City.
 Matlock, Dr. P. N., Mason Hall.
 Paschal, Dr. J. B., Fulton, Ky.
 Pearce, Dr. D. M.* Union City.
 Prather, Dr. D. J., Secretary, Union City.
 Prather, Dr. P. W., Woodland Mills.
 Roberts, Dr. W. F.* Troy.
 Roper, Dr. J. F., Union City.
 Sharp, Dr. J. B., Oblon.
 Watson, Dr. F. W.* Union City.
 Wells, Dr. J. J., Glass.
 White, Dr. E. H., Rives.
 Wright, Dr. J. L.* Elbridge.

OVERTON COUNTY.

Bertram, Dr. J. F., Manson.
 Breeding, Dr. W. M., Livingston.
 Capps, Dr. M. B., Livingston.
 Lamsden, Dr. J. B., Livingston.
 McDonsals, Dr. J. T., Monroe.
 Qualls, Dr. A. B., Secretary, Livingston.
 Reed, Dr. W. A., Livingston.
 Smith, Dr. J. E., President, Hilham.
 Wells, Dr. M. H., Hilham.

POLK COUNTY.

Akin, Dr. Elias Marion, Copperhill.
 Barnes, Dr. James Jackson, Copperhill.
 Copeland, Dr. W. J., Peltzerton.
 Geisler, Dr. Francis Oto, Secretary, Isabella.
 Gilliam, Dr. William Young, Copperhill.
 Hyder, Dr. Robert Lee, Isabella.
 Kinsey, Dr. Fred M., Ducktown.
 Kinsey, Dr. Lucius E., Ducktown.
 Lewis, Dr. Albert W., President, Copperhill.

PUTNAM COUNTY.

Curtis, Dr. H. C.,* Algood.
 Davis, Dr. S. D.,* Cookeville.
 Denton, Dr. Samuel,* Buffalo Valley.
 Dyer, Dr. J. F.,* Cookeville.
 Dyer, Dr. Lex,* Cookeville.
 Ensor, Dr. L. D. J.,* Cookeville.
 Farmer, Dr. W. S.,* Cookeville.
 Howard, Dr. W. A.,* Algood.
 Freeman, Dr. L. M.,* Granville.
 Martin, Dr. C. P.,* Cookeville.
 Martin, Dr. H. C.,* Cookeville.
 Martin, Dr. J. B. S.,* Cookeville.
 Moore, Dr. J. T.,* Algood.
 Officer, Dr. W. C.,* Monterey.
 Ray, Dr. R. L.,* Monterey.
 Sybert, Dr. W. E.,* Baxter.
 Shipley, Dr. Z. L.,* Cookeville.
 Trapp, Dr. J. S.,* Sparta.
 White, Dr. W. A.,* Wilder.

RHEA COUNTY.

Chadwick, Dr. P. C., Rhea Springs.
 Clack, Dr. J. M., Spring City.
 Donaldson, Dr. Sam, Dayton.
 Gillespie, Dr. J. R., Dayton.
 Gross, Dr. A. W., Dayton.
 Hammock, Dr. J. W., Graysville.
 Lovell, Dr. A. I., Graysville.
 McDonald, Dr. W. P., Spring City.
 McKenzie, Dr. Jas. L., President, Graysville.
 Miller, Dr. R. C., Secretary, Evensville.
 Thomson, Dr. J. G., Dayton.
 Thomson, Dr. W. F., Dayton.
 Watkins, Dr. R. K., Spring City.
 Yancey, Dr. Sam M., Dayton, R. F. D. No. 4.

ROANE COUNTY.

Clack, Dr. J. M., Rockwood.
 Clack, Dr. W. S., Rockwood.
 Dodson, Dr. E. F.,* Harriman.
 Givan, Dr. G. C. G., Secretary, Harriman.
 Goodwyn, Dr. J. B., Harriman.
 Green, Dr. C. W.,* Harriman.
 Hill, Dr. W. W., Harriman.
 Kimbrough, Dr. R. M.,* Harriman.
 Nelson, Dr. J. E., Rockwood.
 Philips, Dr., E. S.,* Rockwood.
 Roberts, Dr. John, Kingston.
 Sewell, Dr. J. A., Rockwood.
 Waller, Dr. J. J., Oliver Springs.
 Williams, Dr. W. B.,* Harriman.
 Willson, Dr. J. C.,* Rockwood.
 Zirkle, Dr. G. P.,* Kingston.

ROBERTSON COUNTY.

Barry, Dr. Robt. O.,* White House, R. R. No. 1.
 Bradley, Dr. M. L.,* Sadlersville.
 Brown, Dr. T. L. B., White House, R. R. No. 1.
 Connell, Dr. Jas. R., Adams.
 Covington, Dr. Jas. J., Cross Plains.
 Davis, Dr. Duncan E.,* Springfield.
 Dye, Dr. W. Bruce,* Sadlersville.
 Forgy, Dr. W. H.,* Springfield, R. R. No. 9.
 Freeman, Dr. Jno. S.,* Springfield.
 Frey, Dr. J. J., Springfield, R. R. No. 6.
 Fyke, Dr. Benjamin F., Secretary, Springfield.
 Green, Dr. Jno. R., Springfield.
 Hassell, Dr. Tyree H.,* Springfield.
 Hawkins, Dr. Edward S.,* Cedar Hill.

Holland, Dr. Percle,* Springfield, R. R. No. 9.
 House, Dr. Thos. L.,* Springfield.
 Johnson, Dr. Turner L., Greenbrier.
 Jones, Dr. Guy R., Orlinda.
 Mathews, Dr. Richard L.,* Springfield.
 Moore, Dr. Amon C.,* Springfield.
 Moore, Dr. Jerome E., (Honorary), Springfield.
 Porter, Dr. William W.,* Springfield.
 Ramer, Dr. D. W., Springfield, R. R. No. 3.
 Reeves, Dr. Jno. H., Springfield, R. R. No. 1.
 Royster, Dr. William, Cedar Hill, R. R. No. 5.
 Scott, Dr. Milles, President, Springfield, R. R. No. 9.
 Sory, Dr. Bailey B., Cedar Hill.
 Sory, Dr. Leander F., Adams.
 Walton, Dr. L. B. (Honorary), White House, R. R. No. 1.
 Walton, Dr. Martin A.,* White House, R. R. No. 1.
 Willett, Dr. William H.,* Adams.
 Winters, Dr. W. W., Green Briar.
 Woodard, Dr. F. M.,* Springfield.
 Woodruff, Dr. Jas. B., Springfield, R. R. No. 8.

RUTHERFORD COUNTY.

Bilbro, Dr. W. C., Murfreesboro.
 Campbell, Dr. V. Sumpter,* Murfreesboro.
 Chadwick, Dr. Wm. E.,* Murfreesboro.
 Crosthwait, Dr. Geo. W., Florence.
 Duggan, Dr. S. S., Eagleville.
 Earthman, Dr. Vernon K.,* Murfreesboro.
 Engles, Dr. W. J., Smyrna.
 Goodloe, Dr. A. E.,* Murfreesboro.
 Grigg, Dr. S. C.,* Murfreesboro.
 Huff, Dr. D. C., Christiana.
 Jamison, Dr. A. J.,* Murfreesboro.
 Jones, Dr. Enoch H., Murfreesboro.
 Kelton, Dr. J. C., Lascassas.
 Morgan, Dr. C. H.,* Rucker.
 Murfree, Dr. Jas. B., Murfreesboro.
 Murfree, Dr. M. B., Murfreesboro.
 Overall, Dr. Jas. C., Lascassas.
 Pitts, Rufus, Murfreesboro.
 Read, Dr. Robt. W.,* Murfreesboro.
 Rees, Dr. H. C.,* Murfreesboro.
 Rucker, Dr. Jas. J., Murfreesboro.
 Smith, Dr. S. B.,* Overall.
 Youree, Dr. Wm. E., Readyville.

SCOTT COUNTY.

Baird, Dr. A. A.,* Elk Valley.
 Boyatt, Dr. T. M., Onelda.
 Carr, Dr. H. M.,* Glen Mary.
 Foster, Dr. J. J., Huntville.
 McGill, Dr. T. M., Norma.
 Phillips, Dr. T. L., President, Newland.
 Shields, Dr. J. A. P., Secretary, Norma.
 Thompson, Dr. M. E., Laxton.

SEVIER COUNTY.

Catlett, Dr. W. A.,* Sevierville.
 Flanagan, Dr. S. W.,* Sevierville.
 Huffaker, Dr. John R.,* Sevierville.
 Ingle, Dr. R. J.,* Sevierville.
 Isham, A. J.,* Sevierville.
 Walker, Dr. P. E.,* Sevierville.
 Yarberry, Dr. J. L.,* Sevierville.

SHELBY COUNTY.

Anderson, Dr. P. H., Tenn. Trust Bldg., Memphis.
 Anderson, Dr. W. S., Memphis Trust Bldg., Memphis.
 Andrews, Dr. J. L., Rogers Bldg., Memphis.
 Armstead, Dr. Hal. S.,* 770 Dutro Place, Memphis.
 Ayers, Dr. J. C., 2158 Union Ave., Memphis.
 Baldwin, Dr. W. H., Station G, Memphis.
 Barton, Dr. Jas. L., 78 S. Main St., Memphis.
 Bearden, Dr. M. L., 1091 Greenwood, Memphis.
 Beaty, Dr. H. W., Station C, Memphis.
 Beauchamp, Dr. Jesse L., 614 N. 7th St., Memphis.
 Beck, Dr. C. M., 293 S. 3d St., Memphis.
 Bell, Dr. C. A., Lee Bldg., Memphis.
 Bell, Dr. Jno. C., 534 N. 2d, Memphis.
 Berry, Dr. H. L., Randolph Bldg., Memphis.
 Biggs, Dr. J. M., Memphis Trust Bldg., Memphis.
 Bingham, Dr. W. M.,* Kerrville.
 Black, Dr. W. T., Randolph Bldg., Memphis.
 Blackburn, Dr. E. C., Randolph Bldg., Memphis.
 Branch, Dr. B. L., Collierville.
 Braun, Dr. W. F., Memphis Trust Bldg., Memphis.
 Brevard, Dr. S. A.,* 505 Alabama, Memphis.
 Bridgeforth, Dr. D. O., Memphis Trust Bldg., Memphis.
 Bridger, Dr. Jas. D., Memphis Trust Bldg., Memphis.
 Brinson, Dr. S. N., 201 Cooper Ave., Memphis.
 Buford, Dr. G. C., Randolph Bldg., Memphis.
 Burns, Dr. W. B., Porter Bldg., Memphis.

- Campbell, Dr. S. S., 629 Monroe St., Memphis.
 Campbell, Dr. W. C., Randolph Bldg., Memphis.
 Carter, Dr. J. Hugh, Tenn. Trust Bldg., Memphis.
 Castles, Dr. H. A. S., 63½ N. Main St., Memphis.
 Chaffee, Dr. F. R., Lucy.
 Clark, Dr. J. C., Goodwyn Inst., Memphis.
 Clary, Dr. W. F., Memphis Trust Bldg., Memphis.
 Cochran, Dr. J. F., 579 5th St., Memphis.
 Collier, Dr. Casa, Tenn. Trust Bldg., Memphis.
 Conley, Dr. H. P.,* Byrd Bldg., Memphis.
 Cooper, Dr. A. F.,* Memphis Trust Bldg., Memphis.
 Cox, Dr. W. K.,* Tenn. Trust Bldg., Memphis.
 Crisley, Dr. J. A., Peabody Hotel, Memphis.
 Crofford, Dr. T. J., 211 N. 3d St., Memphis.
 Crutcher, Dr. J. R., Tenn. Trust Bldg., Memphis.
 Cullings, Dr. Jesse J., 83 W. Jackson Bldg., Memphis.
 Cunningham, Dr. J. W., Randolph Bldg., Memphis.
 Currie, Dr. J. A., Lee Bldg., Memphis.
 DeLoach, Dr. A. B., Scimitar Bldg., Memphis.
 Dickson, Dr. Harry,* 1047 Arkansas St., Memphis.
 Dunavant, Dr. B. N., Secretary, Exchange Bldg., Memphis.
 Duncan, Dr. I. G., 422 N. Waldran St., Memphis.
 Duvall, Dr. C. E., 218 McLemore St., Memphis.
 Edwards, Dr. C. W., 488 Laclede Ave., Memphis.
 Elletto, Dr. C. E., Randolph Bldg., Memphis.
 Eskins, Dr. Alexander (Vet.), Randolph Bldg., Memphis.
 Everett, Dr. H. B., Station C, Memphis.
 Fagin, Dr. Robt., Tenn. Trust Bldg., Memphis.
 Farrington, Dr. S. M., Memphis Trust Bldg., Memphis.
 Farris, Dr. H. L., Frisco Hosp., St. Louis, Mo.
 Fisher, Dr. J. B.,* Randolph Bldg., Memphis.
 Flanken, Dr. R. B., Rogers Bldg., Memphis.
 Fleumer, Dr. O. C., Goodbar Bldg., Memphis.
 Flipplin, Dr. S. J., Brunswick.
 Fontaine, Dr. Bryce W., Byrd Bldg., Memphis.
 Francis, Dr. E. E., 115 N. Main St., Memphis.
 French, Dr. J. E., Silver City, Miss.
 Frost, Dr. I. N., Station C, Memphis.
 Goltman, Dr. M., Memphis Trust Bldg., Memphis.
 Graham, Dr. Frank, Memphis Trust Bldg., Memphis.
 Gray, Dr. Jas. N.,* Arlington, Tenn.
 Haase, Dr. M., Memphis Trust Bldg., Memphis.
 Hall, Dr. D. M., Memphis Trust Bldg., Memphis.
 Ham, Dr. E. C., Randolph Bldg., Memphis.
 Haskell, Dr. L. W.,* Randolph Bldg., Memphis.
 Havell, Dr. W. T., Brunswick.
 Haynes, Dr. E. E., Randolph Bldg., Memphis.
 Henning, Dr. B. G., Memphis Trust Bldg., Memphis.
 Henning, Dr. Max, Memphis Trust Bldg., Memphis.
 Henderson, Dr. R. G., Randolph Bldg., Memphis.
 Hill, Dr. J. F., Tenn. Trust Bldg., Memphis.
 Holder, Dr. E. M., Memphis Trust Bldg., Memphis.
 Holmes, Dr. J. B., 1686 Euclid Ave., Memphis.
 Hoover, Dr. F. B., Goodwyn Inst., Memphis.
 Huddleston, Dr. J. J.,* Tenn. Trust Bldg., Memphis.
 Hudson, Dr. A. G., Raines.
 Jacobs, Dr. A. G., Scimitar Bldg., Memphis.
 Jelks, Dr. Jno. L., Tenn. Trust Bldg., Memphis.
 Johnson, Dr. J. E., Memphis Trust Bldg., Memphis.
 Jones, Dr. F. A., Tenn. Trust Bldg., Memphis.
 Jones, Dr. Geo. P., 218 McLemore St., Memphis.
 Jones, Dr. Heber, Tenn. Trust Bldg., Memphis.
 Jones, Dr. Kennedy, Tenn. Trust Bldg., Memphis.
 Kane, Dr. Elizabeth C., Exchange Bldg., Memphis.
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INDEX TO VOLUME III.

ALPHABETICAL LIST OF AUTHORS.

	PAGES		PAGES
Allport, W. H., M.D.	141-155	Lewis, Bransford, M.D., B.S.	66- 83
Beasley, E. M., M.D.	309, 310	Litterer, Wm., A.M., M.D.	44-46,
Bogart, W. G., M.D.	106-109		197-203, 221-224, 242-250
Buford, G. G., M.D.	117-121	Livermore, Geo. R., M.D.	64- 66
Burch, L. E., M.D.	61- 63	Mabry, Earl W., M.D.	191-193
Carter, J. Hugh, M.D.	113-117	McCoy, Ambrose, M.D.	226-230
Christenbery, H. E., M.D.	274-277	Minor, J. L., M.D.	177-179
Clopton, A. T., M.D.	292-295	Overton, John, M.D.	237-241
Cooke, A. B., M.D.	216-221	Petty, Geo. E., M.D.	122-128
Crisler, J. A., M.D.	270-273	Raines, N. F., M.D.	250-252
Crockett, S. S., M.D.	158-165	Sanders, E. M., M.D.	310-314
Crook, Jere L., A.M., M.D.	5	Savage, G. C., M.D.	299-305
Doak, R. S., M.D.	314-319	Sewell, J. A., M.D.	89- 94
Dulaney, O., M.D.	179-186	Simpson, W. L., M.D.	53- 57
Ellett, A. C., A.B., M.D.	285-287	Smythe, F. D., M.D.	186-188
Evans, Newton, M.D.	37- 43	Stevens, J. W., M.D.	261-270
Eve, Duncan, Jr., M.D.	295-299	Stiles, Chas. W., M.D.	35, 36
Fagin, Robt., M.D.	287-292	Swink, W. T., M.D.	102-106
Farrar, M. R., M.D.	252-254	Turner, B. F., M.D.	188-191
Glueck, Alexander, M.D.	209-216	Waller, J. J., M.D.	224-226
Hawkins, Herman, M.D.	173-176	Wechselmann, Dr.	203-209
Jelks, John L., M.D.	94-102	Wilder, Dora Lee, M.D.	155-157
Jones, Frank A., M.D.	47- 52	Wylie, C. B., M.D.	319-325
LeRoy, Louis, M.D.	36, 37		

TABLE OF CONTENTS.

	PAGES		PAGES
A Brief of 109 Cases of Syphilis Which Were Treated With "606." (Glueck) .	209-216	Discovery, Distribution and Consequences of Hookworm Disease. (Stiles)	35, 36
Address of President—The Higher Mis- sion of the Doctor. (Crook) .	5	Editorials.	32, 34, 58, 59, 84, 88, 110, 112, 139, 140, 166, 172, 194, 196, 231, 236, 255, 260, 278, 284, 306, 308, 326, 336
Adenoids. (Wylie) .	319-325	Enlargement of the Prostate .	61- 63
A Leaf from the Catechism of Pediatrics, (Hawkins) .	173-176	Failure to Report Communicable Disease a Criminal Disregard of Law. (Raines) .	250-252
Amebiasis, (Jelks) .	94-100	Foreign Bodies in the Eye. (Fagin) .	287-292
American Proctologic Society .	129-138	Home Treatment of Tuberculosis. (Wilder) .	155-157
A Plea for a Higher Standard of Medical Education. (McCoy) .	226-230	Hookworm Dissection, with Special Ref- erence to the Non-Oviparous Female. (Litterer) .	44- 46
Broncho Pneumonia: Its Treatment. (Mabry) .	191-193		
Chronic Prostatitis. (Livermore) .	64- 66		
Councillors .	11		

	PAGES		PAGES
Iritis. (Doak)	314-319	Symptomatology of Hookworm Disease. (Evans)	37- 43
Lumbar Puncture: Its Technique, Indications and Therapeutic Uses. (Overton)	237-241	Symptoms and Effects of Adenoids. (Simpton)	53- 57
Manic-Depressive Insanity. (Stevens) ..	261-270	The Action of the Aryl-Arsonates on the Eye. (Ellett)	285-287
Maternal Impressions (Christenbery) ..	274-277	The Clinical Significance of Silent Fluids in the Thoracic Cavity. (Jones)	47- 52
Minutes of the House of Delegates	16	The 'Diagnosis of Retro-Peritoneal Enlargements. (Allport)	141-155
Minutes of the Tennessee State Medical Association	11	The New Treatment of Syphilis: Ehrlich's "606." (Litterer)	197-203
Observations on 503 Cases Treated with Dioxydiamido-Arsenobenzol (Ehrlich's "606"). (Wechselmann)	203-209	The Nervous Unfit. (Crockett)	158-165
Officers of County Medical Societies	II-IV	The Present Status of Electro Therapy. (Farrar)	252-254
Officers of Association	I	The Pathology of Hookworm. (Evans). 37- 43	
Ophthalmia Neonatorum, or Inflammation of the Eyes of the Newborn. (Minor)	177-179	The Treatment of Acute Ailments Occurring in Persons Addicted to the Habitual Use of Narcotic Drugs. (Petty) ..	122-128
Pathological Report. (Litterer)	221-224	The Treatment of Acute Inflammation of the Middle Ear. (Savage)	306-308
Pellagra. (Sewell)	89- 94	The Subinvolved Uterus. (Bogart) ...	106-109
Placenta Praevia. (Clopton)	292-295	The Surgical Aspect of Epilepsy. (Buford)	117-121
Purulent Ophthalmia. (Dulaney)	179-186	The Surgical Aspect of Stone in the Kidney. (Crisler)	270-273
Report of a Supposed Case of Ascites. (Beasley)	309, 310	Transduodenal Choledochotomy for Removal of Stones from the Diverticulum and Distal Extremity of the Common Duct. (Smythe)	186-188
Report of Case of Subphrenic Abscess. (Waller)	224-226	Trifacial Neuralgia. (Swink)	102-106
Salpingitis: Its Treatment. (Carter) ..	113-117	Tuberculin Treatment in Pulmonary Tuberculosis. (Litterer)	242-250
Schalek's Epitome of Diseases of the Skin	109	Tumors of the Urinary Bladder. (Sanders)	310-314
Sprained Ankle. (Eve, Jr.)	295-299		
Some Phases of the Diagnosis and Treatment of Prostatic Obstructions. (Lewis)	66- 83		
Subphrenic Abscess. (Cooke)	216-221		
Suggested Changes in Standards in Medical Education. (Turner)	188-191		

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VOL. III.

NASHVILLE, TENN., MAY, 1910.

No. 1

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
President's Address—The Higher Mission of the Doctor— <i>Jere Lawrence Crook, A. M., M. D.</i>	5
Minutes of the Tennessee State Medical Association	11
Minutes of the House of Delegates	16
Editorial	32-34
Advertisements	34-36

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NASHVILLE, TENN., JUNE, 1910.

No. 2

Table of Contents.

*Library
Index
S. G. O.*

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Discovery, Distribution and Consequences of Hookworm Disease. <i>Charles W. Stiles, M.D.</i>	35-36
Symptomatology of Hookworm Disease. <i>Louis LeRoy, M.D.</i>	36-37
The Pathology of Hookworm Disease. <i>Newton Evans, M.D.</i>	37-43
Hookworm Dissection, With Special Reference to the Non-Ovipa- rous Female. <i>Wm. Litterer, A.M., M.D.</i>	44-46
The Clinical Significance of Silent Fluids in the Thoracic Cavity. <i>Frank A. Jones, M.D.</i>	47-52
Symptoms and Effects of Adenoids. <i>W. Likley Simpson, M.D.</i>	53-57
Editorial	58-59
Advertisements	60-62

LIBRARY
Indexed
JUL 20 1910
JOURNAL

OF THE

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VOL. III.

NASHVILLE, TENN., JULY, 1910.

No. 3

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Enlargement of the Prostate. <i>L. E. Burch, M.D.</i>	61-63
Chronic Prostatitis. <i>Geo. R. Livermore, M.D.</i>	64-66
Some Phases of the Diagnosis and Treatment of Prostatic Obstruction. <i>Bransford Lewis, M.D., B.S.</i>	66-83
Editorial	84-88
Advertisements	89-91

JOURNAL

OF THE

Tennessee State Medical Association

Published Monthly Under the Direction of the Board of Trustees

OFFICE OF PUBLICATION, 146 EIGHTH AVE., NORTH, NASHVILLE, TENNESSEE

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VOL. III. NASHVILLE, TENN., AUGUST, 1910. No. 4

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Pellagra. <i>J. A. Sewell, M.D.</i>	89-94
Amebiasis. <i>John L. Jelks, M.D.</i>	94-102
Trifacial Neuralgia. <i>W. T. Swink, M.D.</i>	102-106
The Subinvolted Uterus. <i>W. G. Bogart, M.D.</i>	106-109
Schalek's Epitome of Diseases of the Skin	109
Editorial	110-112
Advertisements	113-115

JOURNAL

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VOL. III. NASHVILLE, TENN., SEPTEMBER, 1910. No. 5

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Salpingitis—Its Treatment. <i>J. Hugh Carter, M.D.</i>	113-117
The Surgical Aspect of Epilepsy. <i>G. G. Buford, M.D.</i>	117-121
The Treatment of Acute Ailments Occurring in Persons Addicted to the Habitual Use of Narcotic Drugs. <i>Geo. E. Pettey, M.D.</i>	122-128
American Proctologic Society	129-138
Editorial	139, 140
Advertisements	141-144

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VOL. III. NASHVILLE, TENN., OCTOBER, 1910. No. 6

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
The Diagnosis of Retro-Peritoneal Enlargements. <i>W. H. All-</i> <i>port, M.D.</i>	141-155
Home Treatment of Tuberculosis. <i>Dora Lee Wilder, M.D.</i> . .	155-157
The Nervous Unfit. <i>S. S. Crockett, M.D.</i>	158-165
Editorial	166-172
Advertisements	173-176

JOURNAL

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NOV 28 1910

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Indexed
S. G. O.

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
A Leaf from the Catechism of Pediatrics. <i>Herman Hawkins, M.D.</i>	173-176
Ophthalmia Neonatorum, or Inflammation of the Eyes of the Newborn. <i>J. L. Minor, M.D.</i>	177-179
Purulent Ophthalmia. <i>O. Dulancy, M.D.</i>	179-186
Transduodenal Choledochotomy for Removal of Stones from the Diverticulum and Distal Extremity of the Common Duct. <i>F. D. Smythe, M.D.</i>	186-188
Suggested Changes in Standards in Medical Education. <i>B. F. Turner, M.D.</i>	188-191
Broncho Pneumonia: Its Treatment. <i>Earl Winters Mabry, M.D.</i>	191-193
Editorial	194-196
Advertisements	197-200

JOURNAL

OF THE

Tennessee State Medical Association

LIBRARY

DEC-27. 1910

SURGEON GENERAL'S OFFICE

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VOL. III. NASHVILLE, TENN., DECEMBER, 1910. No. 8

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
The New Treatment of Syphilis: Ehrlich's "606." <i>Wm. Litterer, A.M., M.D.</i>	197-203
Observations on 503 Cases Treated with Dioxydiamido-Arsenobenzol (Ehrlich's "606"). <i>Dr. Wechselmann</i>	203-209
A Brief Report of 109 Cases of Syphilis which were Treated with "606." <i>Alexander Glueck, M.D.</i>	209-216
Subphrenic Abscess <i>A. B. Cooke, M.D.</i>	216-221
Pathological Report. <i>William Litterer, M.D.</i>	221-224
Report of Case of Subphrenic Abscess. <i>J. J. Waller, M.D.</i>	224-226
A Plea for a Higher Standard of Medical Education. <i>Ambrose McCoy, M.D.</i>	226-230
Editorial	231-236
Advertisements	237-240

JOURNAL

OF THE

LIBRARY

JAN. 30. 1911

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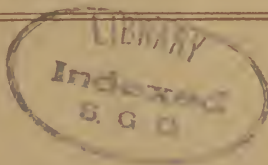


Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Lumbar Puncture; Its Technique, Indications and Therapeutic Uses. <i>John Overton, M.D., Nashville</i>	237-241
Tuberculin Treatment in Pulmonary Tuberculosis. <i>Wm. Lit- terer, A.M., M.D., Nashville</i>	242-250
Failure to Report Communicable Disease a Criminal Disregard of Law. <i>N. F. Raines, M.D., Raines</i>	250-252
The Present Status of Electro Therapy. <i>M. R. Farrar, M.D., Nashville</i>	252-254
Editorial	255-260
Advertisements	261-264

JOURNAL

OF THE

Tennessee State Medical Association

Published Monthly Under the Direction of the Board of Trustees

OFFICE OF PUBLICATION, 146 EIGHTH AVE., NORTH, NASHVILLE, TENNESSEE

ENTERED AS SECOND-CLASS MATTER, MAY 29, 1908, AT THE POST OFFICE AT NASHVILLE, TENN.

SUBSCRIPTION, \$2.00 PER YEAR

VOL. III. NASHVILLE, TENN., FEBRUARY, 1911. No. 10

Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Manic - Depressive Insanity. <i>J. W. Stevens, M.D., Nashville</i>	261-270
The Surgical Aspect of Stone in the Kidney. <i>J. A. Crisler, M.D., Memphis</i>	270-273
Maternal Impressions. <i>H. E. Christenbery, Knoxville</i>	274-277
Editorial	278-284
Advertisements	285-288

JOURNAL

APR 3- 1911

OF THE

SURGEON-GENERAL'S OFFICE

Tennessee State Medical Association

Published Monthly Under the Direction of the Board of Trustees

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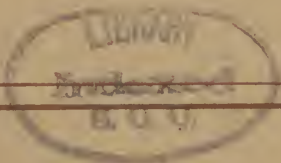
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VOL. III. NASHVILLE, TENN., MARCH, 1911. No. 11

Table of Contents.

PAGE

Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
The Action of the Aryl-Arsonates on the Eye. <i>A. C. Ellett, A.B., M.D.</i>	285-287
Foreign Bodies in the Eye. <i>Robert Fagin, M.D.</i>	287-292
"Placenta Praevia." <i>A. T. Clopton, M.D.</i>	292-295
Sprained Ankle. <i>Duncan Eve, Jr., M.D.</i>	295-299
The Treatment of Acute Inflammations of the Middle Ear. <i>G. C. Savage, M.D.</i>	299-305
Editorial	306-308
Advertisements	309 312



JOURNAL

OF THE

Tennessee State Medical Association

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APR. 13. 1911

SURGEON-GENERAL'S OFFICE

Published Monthly Under the Direction of the Board of Trustees

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VOL. III. NASHVILLE, TENN., APRIL, 1911.

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Table of Contents.

	PAGE
Officers of Association	i
Councilors	ii
Officers County Medical Societies	ii-iv
Report of a Supposed Case of Ascites. <i>E. M. Beasley, M.D.</i>	309, 310
Tumors of the Urinary Bladder. <i>E. M. Sanders, M.D.</i>	310-314
Iritis. <i>R. S. Doak, M.D.</i>	314-319
Adenoids. <i>C. B. Wylie, M.D.</i>	319-325
Editorial	326, 327
Reports of County Societies	328-336
Index to Volume III	337, 338
Advertisements	339, 340

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1875